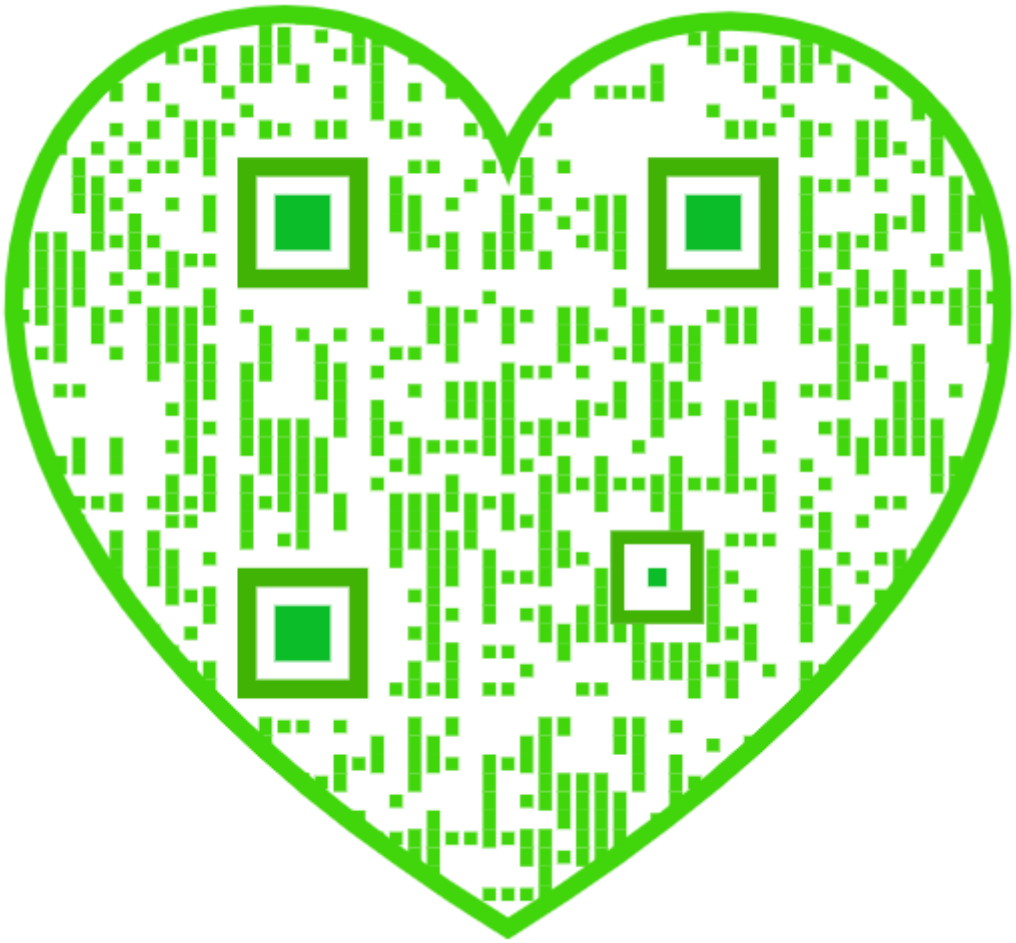
FURNITURE *for the* CRAFTSMAN

PAUL D. OTTER



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Furniture
FOR THE
Craftsman

A manual for the student and mechanic, covering the design, construction and finishing of practically all the articles used in the furnishing and equipment of the modern home, porch and grounds with hints on upholstering

By PAUL D. OTTER

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PREFACE

IT is gratifying to realize that the period in which the series of articles under the heading: "Cabinet Work for the Carpenter" occupied frequent space in the columns of "The Building Age," has been noticeably the period in which the taste of the public has been pressed back into the good old mould from which so much of our enduring art was cast. To this subject and homage to the old masters of furniture building, deference is paid in the opening chapter, where a short review is attempted of that portion of the history of furniture showing examples best designed to inspire us for the work to be considered.

Much additional matter has been added to the original articles and all arranged in the form of a handbook in order to meet more general requirements under the title "Furniture for the Craftsman." In addition to the carpenter and the manual training student there is the day-fagged business man as well as many others who are likely to find refreshment from commercial and professional pressure in the increasing skill of doing things and in the joy of their accomplishment.

The subject matter is comprised in sixteen well-arranged and carefully illustrated chapters, one of which considers the essential tools and equipment necessary for doing the work, while others describe various kinds of furniture as well as bath room accessories. The concluding chapters are given up to finishing and upholstery. Not the least interesting portion of the work is that which deals with the furnishings for the porch and the grounds about the house.

PAUL D. OTTER.

Chicago, May 15, 1914.

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FURNITURE FOR THE CRAFTSMAN

CHAPTER I

INFLUENCE OF ANTIQUE MODELS ON PRESENT-DAY FURNITURE

MAN becomes a responsible factor in life when he engages an interesting side partner to help and confer with him in his plans and future welfare. The home then becomes a talked-of subject and very soon a reality. The endeavor in this preliminary article will be to consider the subject of furniture as tools and equipment of domestic use, requiring the same intelligent conception and selection of each piece for one's needs in establishing the home as would be given to the selection of some necessary tool.

Following this review the purpose is to later detail various pieces of furniture in such a manner that those interested may construct them; also to present illustrations of good types of furniture which will enable them to more readily select from dealers such patterns as will prove satisfactory to present needs and future refinement of the home.

As life and the establishment of the home is begun with much sentiment and always with the substantial thought of permanence, so should the selection and gathering together of all things be attended with the same substantial thought of permanence. Too often a home is thoughtlessly established by buying things hurriedly or getting possession of nondescript pieces

—this to a lasting regret when loving association attaches by use even to a chair or a table of a poor pattern.

By considering the subject carefully at the time of purchasing, one may secure neat furniture of a plain form and design which will be in harmony with other furniture forms one may desire to make from time to time. To illustrate, compare a quite possible selection of sideboard which you bought ten years ago—say Fig. 1—and then Fig. 2, which you wish to make or buy. Fig.

FIG. 1.—An Ornamental Sideboard of Very Questionable Design.

2 has in its direct lines and quiet surfaces the dignity of service and it will always be in favor. Fig. 1—well, it is quite like some overdressed, slangy person, and there will soon come a day when you will cut his acquaintance.

How to know furniture is a leading question to one who is refurnishing, or to the home planner. Be he ever so fastidious

in matters and correctness of dress, he may feel quite at a loss in furnishing the rooms of a new home. Heretofore insufficient attention has been given to style or architectural type of our exteriors in the selection of furniture. Now we do see evidence

FIG. 2—A Buffet Sideboard.

of more regard in relation to exterior and interior harmony and in the arrangement as well as purpose of each room.

To more clearly illustrate recent discrimination in selecting furniture, one may take up various back numbers of magazines, which so frequently open, as it were, the door of our homes, permitting us to look within. Do you not see that this living room or that library contains an odd assortment of mismatched furniture? It is true, such an array does not always indicate absence of a developing taste for good things in furniture; far from it. I should now, while writing, dislike mightly to have a

newspaper photographer come in and snap-shot some of my furniture, for way back in the early partnership days did not the low income decide the selection of this chair or that table? I guard them as jealously as a dog with his foot over a well-earned bone; they represent much that is hallowed with sentiment. The high chair is fondly tolerated; the old rocker, though it be of a "passé" factory pattern, the daughter would not permit of its banishment, as it pictures in the mind many hours and days of rockaway rides into story and sleepland with mother. No, do not put them away in the attic, but let us suggest to the newly married to appreciate the great opportunity of this period to secure furniture of good outline and plain surfaces. Good furniture is now so prevalent that you will unconsciously know it when you go out to look for it intently. To know it more intimately is the purpose of what follows.

Pictures Rather Than Description

In studying good furniture we will avoid getting into the depth which an antiquarian might lead us in such an extensive subject by resorting, with a brief description, more to pictures labelling them as we go along. The desire will be to show characteristic prototypes of furniture prevalent during the years gone by, and, as we discuss in detail later on, in a parallel way, an example of a possible or modern treatment of a similar form or article made today.

In surveying the history of furniture as a treatise intended for information and inspiration to many desiring to make furniture, I am inclined to confine our study almost entirely to English styles and periods—not that little merit is to be found in the work of Germany, Italy and France, and particularly France, but that French examples represent much elaborate detailed treatment and extravagance of outline which would carry us far beyond our purpose. French influence, however, should not be discredited and is strongly reflected or worked in, as we shall see in our comparisons.

Beginning with the reign of Queen Elizabeth (1558-1603) we have the "Elizabethan Style," which in its influence extends far

into the reign of her successor, James I., and indeed it is hard in many cases to tell "t'other from which"—the Elizabethan from the "Jacobean," as it was called.

Political and social conditions were reflected more in articles of domestic use in those days than they are now. The arts and industries were encouraged and patronized more by the royalty and people of the court, and such patronage continued for a long period during each reign. It is to this royal fostering of the arts and industries of the political divisions and periods of former times that we derive much of our inspiration and influence in matters of art and literature—we draw deeply from these well springs.

Furniture Much Ornamented

The early part of the Elizabethan period was characterized by much ornamentation, principally carving, the frames designed quite with the purpose of having the cabinet work a foundation for elaborate ornament of enriched turnings, carved panels,

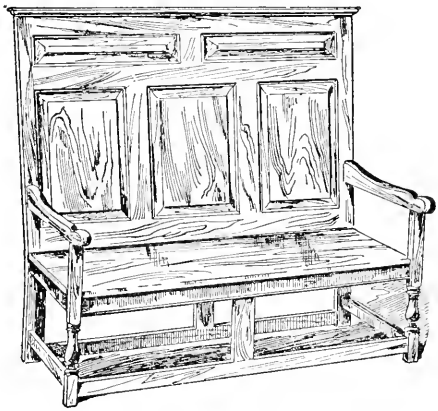


Fig. 3.—Settle of the Cromwell Period.

strap work, bands and borders. Not until well into the period of the "Jacobean" Style—James I (1603-1625)—was there evidence that the carver worked for the joiner instead of the joiner building frames for the carver to decorate.

The cabinet maker was then beginning to work for recognition more in the excellence of his joinery and by the display of molded and mitered panel work, and while the general forms of the over-enriched and the plain are quite similar, as the Jacobean Style is reviewed and we sit back and read of the history of the time, we are impressed that political and social conditions do have an influence on the character of the clothes we wear and the furniture we use, for when Cromwell became Protector he and his followers certainly would have none of the things of the

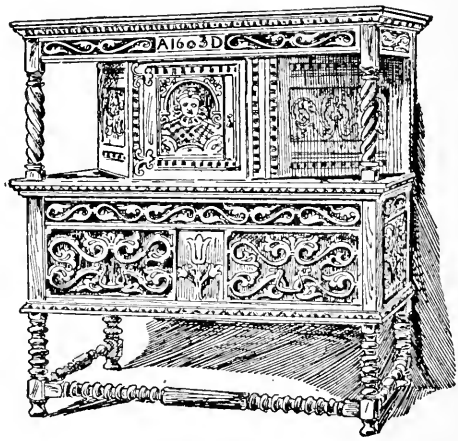


Fig. 4.

court—its grandeur, extravagance, tinsel, carvings and foolishness—and we look into the homes of his time and see that there was considerable modification to conform all things to the simple and useful. Note the severely plain paneled settle in Fig. 3. By referring to the carved "court cupboard" in Fig. 4, the essential features of the Elizabethan are shown. There are few surfaces of rest. Under analysis, however, the sturdy form of the structure or carcase commands attention when brought into comparison again with Fig. 1, for example.

Figs. 5 and 6 represent the character of carving employed, being much in the nature of bands or squares, the design being

cut into the wood much after the manner of type, with the main detail left quite flat.

Fig. 7 is a chair much in vogue during this period and is here used to illustrate how much our village chair makers in Colonial

Fig. 5.

Fig. 6.

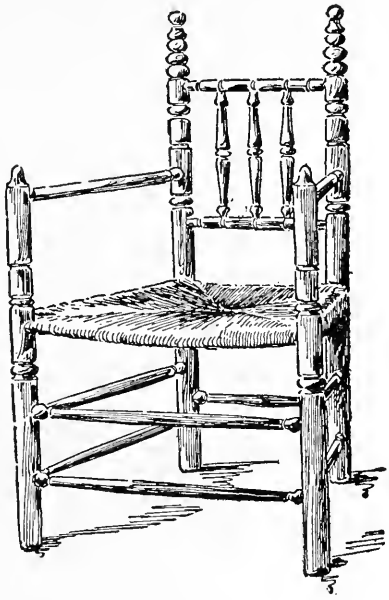


Fig. 7.

days employed the lathe in producing similar patterns for common use. Figs. 8, 9, 10 and 11 in their order illustrate quite sufficiently the developed features of the Jacobean Style, while Fig. 12, although Jacobean, is of the time of Charles II., showing considerable French influence, particularly in the full carving and the shape of the legs.

By the use of illustrations Figs. 8, 9, 10, 11 and 12 in the preceding article, indicating the character of the Jacobean period, which includes the reign of James II, Charles I, the Commonwealth period, Charles II and James II, and also embracing what

Fig. 8.

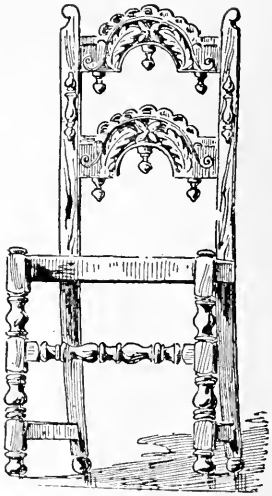


Fig. 9.

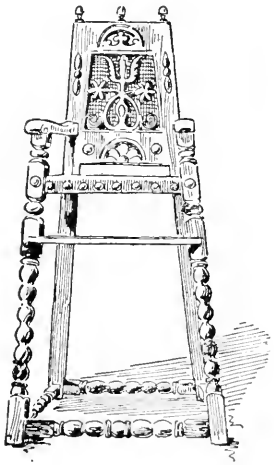


Fig. 10.

Fig. 11.

is called the Stuart and Tudor style, we immediately note a change in style when William, the Dutch Stadtholder, comes over from Holland with his wife Mary and possesses himself of his father-in-law's throne (1689-1702).

He was a man of decided ideas and a determined way of putting them in motion. The period of "William and Mary" presents a study in furniture very different to preceding forms. Here again the illustrations will more quickly show the distinc-

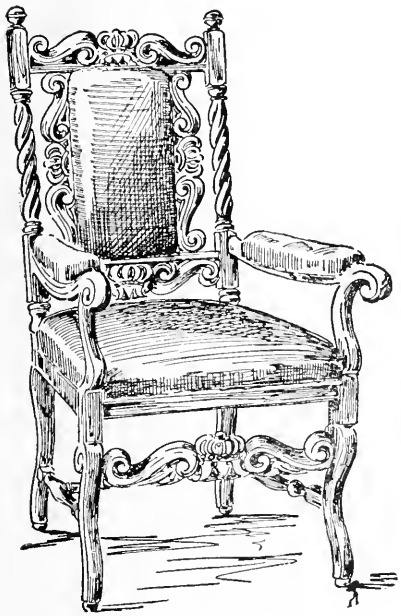


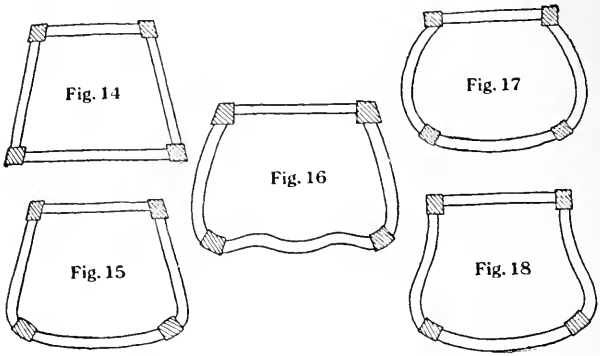
FIG. 12.

FIG. 13.

tion, and it hardly needs the attention to be called to note the difference in the leg of chair, Fig. 13. This pattern denotes particularly the Flemish or Dutch influence, which in turn was borrowed by them from the French.

There are many modifications of this, the cabriole leg, as it is called. The reader will note that the upper part of the chair indicates it is quite a different type in the transition still

of the former Jacobean, for it must be appreciated that while we are quickly reviewing this subject and are now stopping at a particular period that possesses many imported features to a marked degree, yet during all these periods the impressions and suggestions of former styles in point of fact require a number of



Figs. 14 to 18—Forms of Chair Seats

of years to be eliminated. For the accepted classification we must know the style under discussion as "Queen Anne"—however little she had anything to do with the change of art brought over by her Dutch brother-in-law, William.

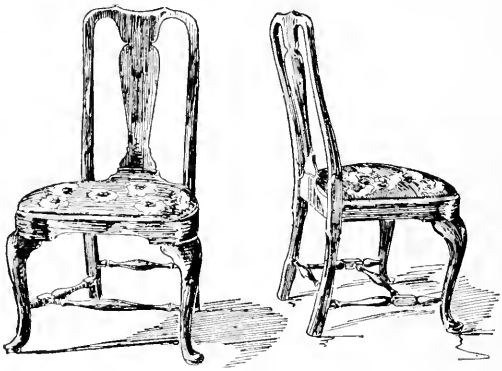


Fig. 19—Queen Anne Splatback Chair

The "William and Mary," however, or "Queen Anne," as we will call it, must necessarily strongly attract our attention, for

with the constant preference for the "Colonial" in our present day furnishings we have in it the results of an early king's fostering care of his home arts in cabinet making, as seen when considering the furnishings of an early colony home.

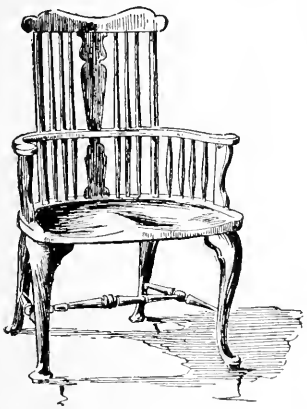


Fig. 20—Windsor Type of Arm Chair

Another marked feature of the "Queen Anne" style was a change from a square or rectangular outline to a rounded or curvilinear form in the shape of the seat frames, as indicated in Figs. 14, 15, 16, 17 and 18. Also the chair backs were of a baluster or "splat" like character instead of solid panels as in Figs. 13 and 19.

The "Windsor" type of arm chair brought out at that time shows such baluster or splat in the center. This form of chair, Fig. 20, is greatly identified with Colonial homes.

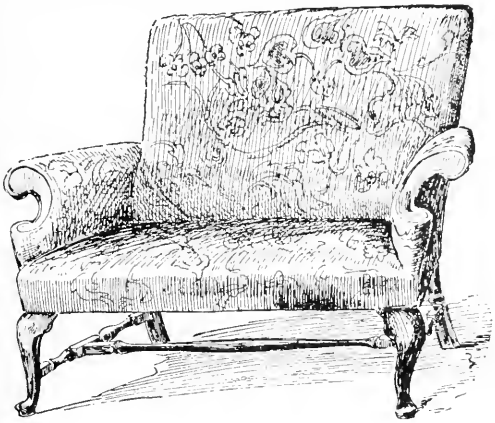


Fig. 21

With the introduction of the arm chair, formalism and stiffness gave way and the upholsterer developed his craft more. In Fig. 21

is shown a "Queen Anne" settee which is very popular today, the picture indicating the peculiar scroll roll arm which in those days had their purpose of accommodating the full or hoop skirt of the ladies. Cane came into considerable use about this time for filling backs and seats to chairs.

The toilet mirror and writing desk in Fig. 22 and what was then special furniture also came into favor. Men of prominence

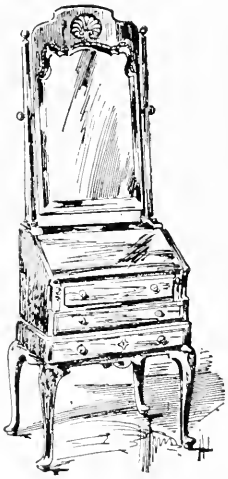


Fig. 22.

Fig. 23.

and writers had furniture or chairs built to meet personal whims or needs, just as one would order a suit from his tailor. Fig. 23 illustrates such a chair made for the poet Gay. Note the cabriole leg, a French shape but cut in a more restrained manner than the carved leg shown on the chair in Fig. 13.

And so we come along in the years and enter the "Georgian period," so-called, properly beginning with the reigns of the four Georges from 1714 to 1830. In this century much of the very best work was executed, and after a period of two hundred years the modern designer is holding up the work of Chippendale, Hepplewhite and Sheraton as masters unexcelled.

More is known today of "Chippendale style" than is known of the man Thomas Chippendale, who was born in 1708 and died in 1779. With little knowledge of his private life and personality, we can, however, arrive at an estimate of the man when we review the years in which he lived and accomplished so much that found favor among his wealthy patrons, which leads us to believe that he would be a rare success today; for while not especially original, he possessed great ability to put "this and that" together with results which produced a style that has carried his name along through the years. While a clever adapter of parts and pieces we like to think that the product of his brain and hands still bears his name rather than that of a patron king. He must have shown some executive ability to bring this about —some might call it egotism, but why should not a man be known by the chests and tables he makes—particularly if he makes good chests and tables—just as much as a good painter is recognized by his signed painting? This man and his contemporaries lived mind, body and soul in their work, and we suspect their enduring work was greatly stimulated by personal praises and substantial patronage; they lived in a period when men of mental ability were also equally capable with their hands.

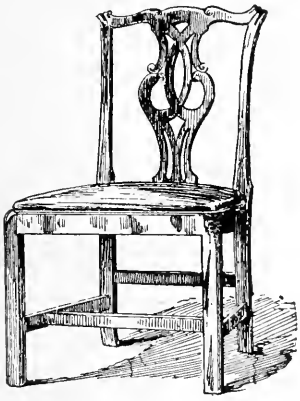


Fig. 24.

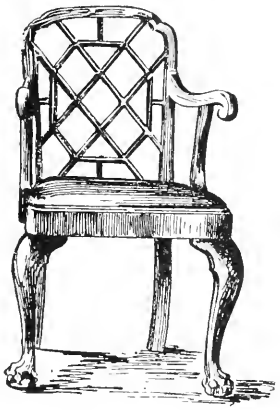


Fig. 25.

In Fig. 24 is shown a plain type of Chippendale chair which is considered quite characteristic, although it is not his favorite

form, for the leg which he delighted in using was the French leg, but treated less elaborate and more suggestive of the "Queen Anne" cabriole type as in Fig. 25, which terminates in a ball and claw.

While Chippendale showed great preference for French detail, he used it in many cases in a very skilled and restrained manner on his cabinet work, the forms of which were usually plain and well proportioned. In a condensed treatise of this kind, chairs are pictured to show the character of a period as they naturally offered a more frequent medium of expression on the part of the

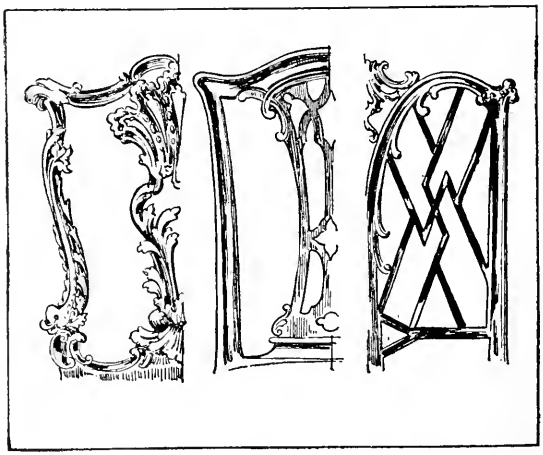


Fig. 29. Fig. 27 Fig. 28.

designer for his particular tendency. A clearer impression of Chippendale ornament may be obtained by referring to Figs. 26, 27, 28 and the group 29 The detail in the first chair back is quite of the Louis XIV and Louis XV order, and again in the back, Fig. 27, he uses in a simple way certain French *motifs* as shown in the group Fig. 29 in clever union with an original Gothic treatment of the open banister, and then in Fig. 28 he combines this French influence with the Chinese lattice treatment, and so in pilaster, rails and panels of other furniture forms

he utilized these fragments, leafage, scrolls, shells and scalloping with rare grace and skill.

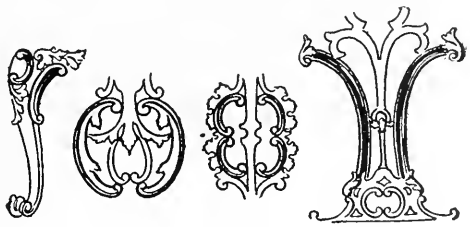


Fig. 29.

As with all who became enamored with French ornament, particularly the excessive overladen character of Louis XV style and "Roccoco," so Chippendale left behind him many drawings and examples of his work which we would now consider decidedly erratic and overdone, but we have evidence in drawings and examples of so much of his better work that we readily overlook his fancy flying to questionable heights, and his contemporaries

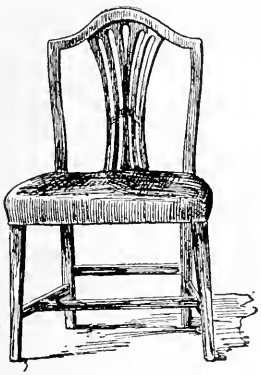


Fig. 30.

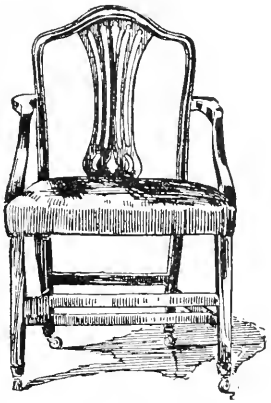


Fig. 31.

were undoubtedly influenced by the versatility of this man. Figs. 30, 31 and 32 show other forms of this designer's work.

Men following Chippendale a little later no doubt were more

under the spell of the Louis XVI style, which was considerably restrained in form and detail to that of Louis XV, and in considering Hepplewhite and Sheraton we find little to criticize in extravagance of outline and surface embellishment.

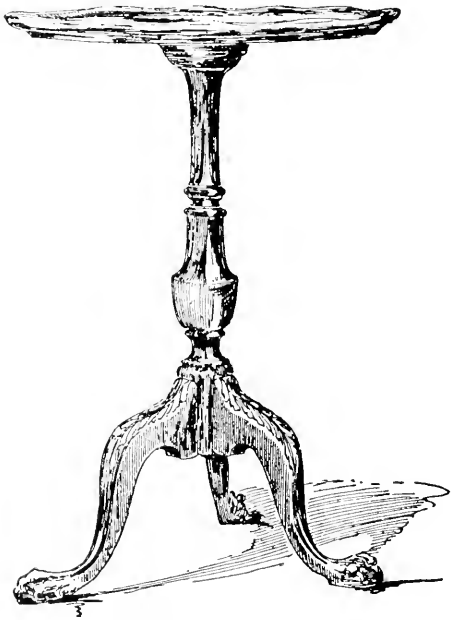


FIG. 32—Chippendale "pie crust" Table.

Hepplewhite and Sheraton

From certain glib usage by novelist and salesman, Chippendale is thought to be quite the "entire show," when as a fact two other men occupied the stage and played well their parts, at least in the last act of the Chppendale setting. How well the three have played, copied or vied with each other our present day furniture stores will show. It is truly Chippendale, Hepplewhite or Sheraton which the manufacturer aims to reproduce with all their characteristic features.

The marked and individualizing feature of the Hepplewhite style in contrast to Chippendale is in lighter parts, graceful out-

line and delicate ornament, and to be just, very little pirating from the work of his own countryman, yet dominated much by French work and *motifs*. To arrive at a quick comprehension

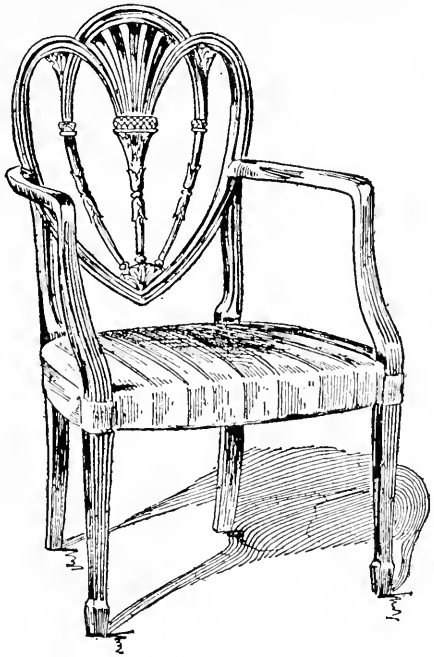


Fig. 33.

Fig. 34.

Fig. 35.

Fig. 36.

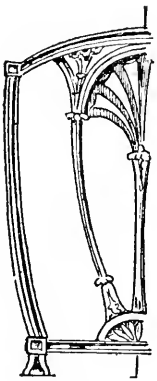


Fig. 37.

of the difference, Fig. 33 serves as full evidence of general form, and this designer's work may be recognized by the shield form of back; rarely if ever was the back imbedded in the back seat rail. See Figs. 34, 35 and 36.

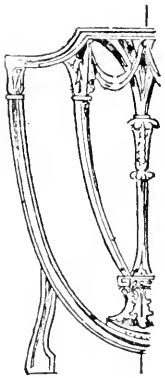


Fig. 38.

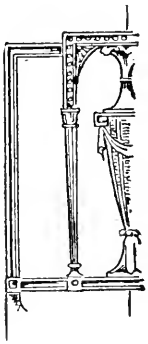


Fig. 39.

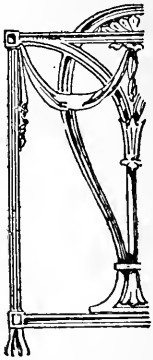


Fig. 40.

Contrast these forms with those of Sheraton, shown in Figs. 37, 38, 39 and 40, whose tendency was more to straight lines and tapering members.

As regards the identification of furniture forms, Hepplewhite may always be recognized by his use of the concave cor-

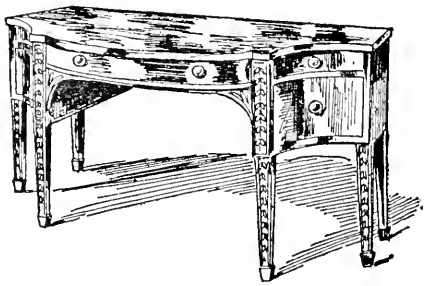


Fig. 41.

ners in writing desks and sideboards, as indicated in Fig. 41, while Sheraton used the convex shape as shown in Fig. 42.

It has been the endeavor to sort over the work of these three great English cabinet makers and show the salient features of each.

Colonial

The "Colonial" as a term applied to furnishing and furniture would make an interesting story. In description it is traceable to the influences of three recognized periods—the Greek "Classic," which inspired the French "Empire" style, to in turn undergo still greater elimination and refinement during the

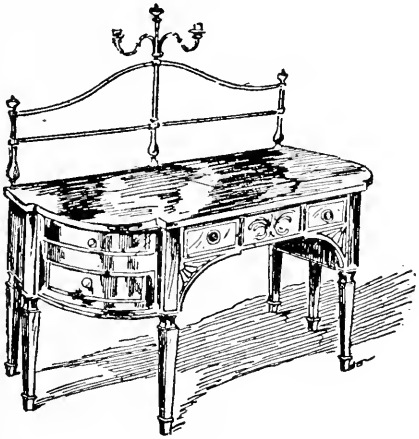


FIG. 42.

"Georgian" period in England, when it finally developed into its present known characteristics of simple form and plain surface, and as time passes the term "Colonial" is given greater recognition in the list of the world's creative or architectural periods. The open museums and the private collection show a goodly harvest of many early examples in which there are the genuine work of the best English designs imported by the colonists, as well as the work of the early American cabinet makers.

To have proper conception of the "Colonial" we must dismiss from our minds Chippendale, Hepplewhite, Sheraton, Adam and other English workers and gradually draw together the

composite type of these workers and the work of our own colony craftsmen who were locally handicapped and otherwise unable to work in any but a restricted manner. We will find that the type resolves itself into a most satisfactory form in which the simple elemental forms of base pediment, column and scroll are marked in constant consideration given to the "Colonial" as the prevalent style.

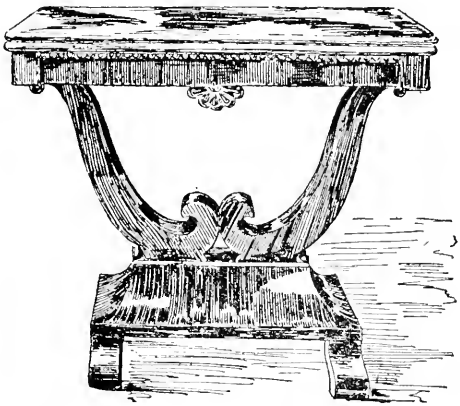


Fig. 34.

The simple outlines of the table in Fig. 45 and workstand, Fig. 44, are used as examples of distinctly American Colonial.

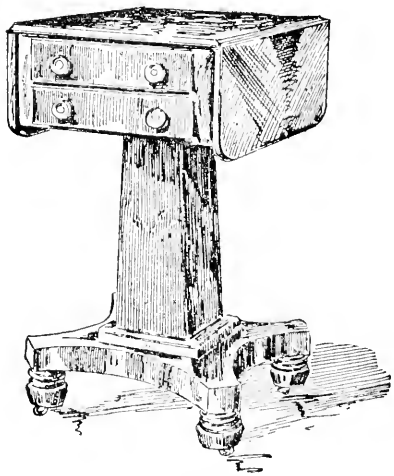


Fig. 44.

The "sleigh" bed in Fig. 45 is another type, yet showing an "Empire" influence. Fig. 46 shows the inventive tendency

when the early colony chair maker devised the rocker, yet was under the spell of Chippendale in the design of the back. Fig.

Fig. 45.

47, however, is quite independent of mother country suggestion except that it indicates slightly the "Windsor" type, yet it is so

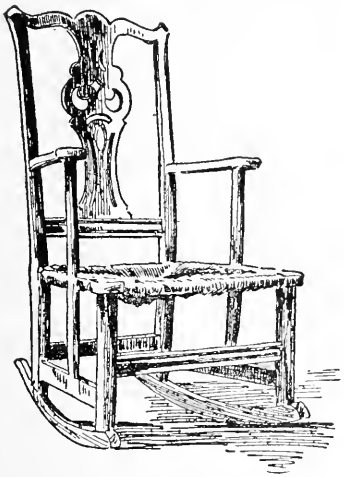


Fig. 46.

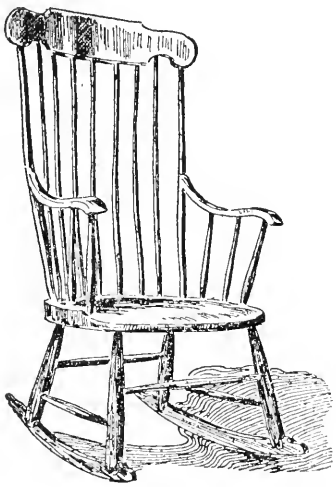


Fig. 47.

pronouncedly rural colonial that it and its variations hold our patriotic attention.

In articles following it is the purpose to take up more in detail the goodly influences of the eighteenth century designers and to be more at home with our "Colonial."

Mission

Our theme would not be brought up to the present day should no mention be given to the unquestionable influence of the very few furniture forms found about the early American missions.

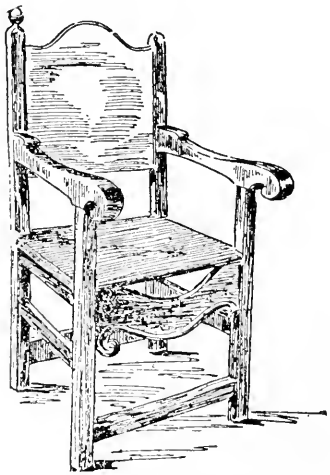


Fig. 48.

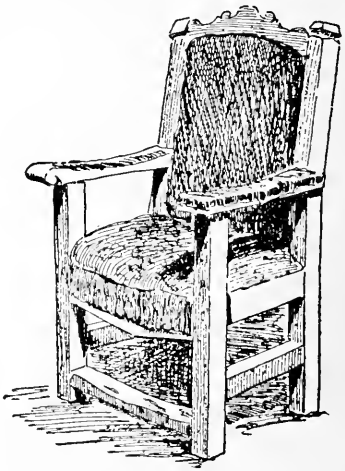


Fig. 49.

We are all living to experience the marked transforming tendency of what we now call the "mission style." Owing to its refreshing simplicity and to the sparcity of architectural types and interior detail, architects and designers have in many recent instances overstepped and "gone to Spain" for much the old friars either did not intend to bring with them or have on or within their community buildings, or for good reasons were unable to skilfully execute conventional forms.

Figs. 48 and 49 show the original inspiration for what we term "Mission," and any decided departure from the direct constructive character ceases to be "Mission." From the restlessness

of our day we are developing a modified interpretation familiarly known as the "Arts and Crafts," of which more will follow later.

Tables

In the two previous articles a general view and discussion of furniture forms was given. Time has tested these forms and other general characteristic features described in those articles, and it will be found that the influence of these "periods" actively determines our form of furniture as does the period style of the building determine the nature and decoration of the room within, and so it is with the intention of dividing the furniture family under headings that the subject of tables is now considered. It is not so much what we make for ourselves in unrestrained enthusiasm, urged on by watching the clean shavings curl from our plane, but it is what others might think of our product when we get through with it that impels us to consider, with some deference, what is in the market?—what kind of furniture is the home furnisher seeking?

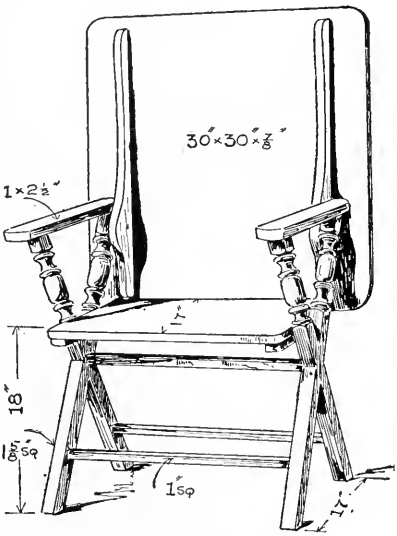


FIG. 50—Table Chair 29½ In. High Shown with Top Down

In this inspection of present furniture it will inspire the practical tool user with increased confidence that many of the furniture forms bought by discriminating purchasers he can make for his own home and use them also as models for private orders.

With this idea in mind the present subject has been prepared, presenting types of simple construction and of the character which will harmonize well in the furnishing of the modest home; particularly will others fit in well with the bungalow and concrete

order of home, the character of which originally springs from the same source as shown in many under consideration.

Having a two-fold use, Fig. 50 is very desirable in the small cottage or bungalow home where the dining room is frequently the living room. It is well adapted for beginners in the home life and when not in use looks well against the wall as a settle, particularly when the room has a timbered or paneled treatment.

It might be well to note here in passing that all such pieces of furniture never look well in natural or light finish, even golden oak finish, for much of the square furniture is too light. The main purpose and most satisfactory color finish is to get age-brown tones immediately, as they blend well with drapes, rugs and all other furnishings. Such a tone, you will notice, accords well with standard tones adopted by the architect and decorator. This age tone is commonly known under the name of "fumed oak." "Cathedral oak" is another pleasing shade of brown. Oak is also a safe wood to use for furniture of a medieval type, or that which partakes of a sturdy character and possesses a combination of square and round-turned parts.

It is assumed a sufficient working drawing be made showing the end view of the subject and also one-half of the front view. With the skill of a workman and the experience in getting out and handling stock much of unnecessary and familiar detail need not be placed on the drawing if time does not permit. The use of the drawing will be to pencil in between determined measurements unknown detail of form and outline. Other simple parts may with judgment be arranged for and fitted as the work proceeds.

These remarks do not, of course, minimize the value of a clearly defined working drawing, should there be any need of referring to it at some later time or of making a modified interpretion of the same class of subject.

Well seasoned wood should at all times be made use of and generous well fitting tenons be given to the cross stretchers which should go clear through the thickness of cross legs and further secured either by a headless brad or a hardwood peg. The top of the table may operate on a bolt or lag screw secured

through a hole in the enlarged part of batten and pass into arm or back post. This is a matter of experimenting and also the location of top in central position over the base when down in place.

Little need be said of the settle table in Fig. 51 except to call attention to another use of the compartment under the lift-up seat. This is entirely of ⅞-in. boards. The drawing here shown represents a familiar type of early English or early colony utility table. It admits, however, of varied outline and more elaborate treatment. Sometimes the seat is padded and upholstered with a padded and upholstered panel treatment, covering much of the space within the battens of the underside of the top. This, then, to use an expression, "puts it in another class" and identifies it more with the furnishings of a craftsman's living room.

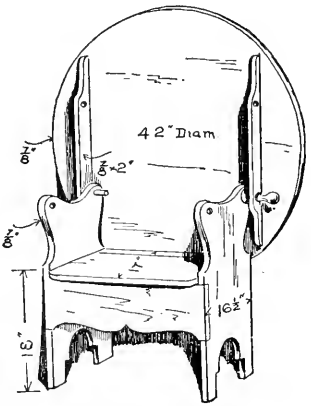


Fig. 51—A Settle Table 29½In. High Shown with Top Down

It is desired by the aid of the cuts shown to excite individual expression as much as possible. Much of the old furniture is interesting from the ingenious devices or construction, designed just as much then as today, to serve a double purpose, and it is hoped that the spark of inventive genius may be fanned into flame of enthusiasm for other simplifying means or comfort-giving features. Meanwhile curb any desire to change good form for some untrained outline or erratic profile to your turnings; rather seek out and make a rough pencil sketch of a bit of turning or an approved outline which you think would apply to a particular form of furniture needing a little more grace or livelier expression to it by a change of outline, or an added bit of modest carving or moulding.

Fig. 52 presents an English breakfast table which is coming again into renewed favor. It has its advantages of looking well when not used as a meal table and of being useful for other purposes.

The marked revival of needlework among ladies demands attractiveness in table designs and for this reason the antique models are more than ever being reproduced, fashion dictating that luncheons be served on bare table tops over open lace work doilies and scarfs. A becoming design of table is therefore much in demand. A simple turned shape to the posts of the Jacobean period is shown, although other profiles may be used. Two specially fitted hinges screwed firmly in the usual way to ends of leg strainers and brought together by a central pin covered by

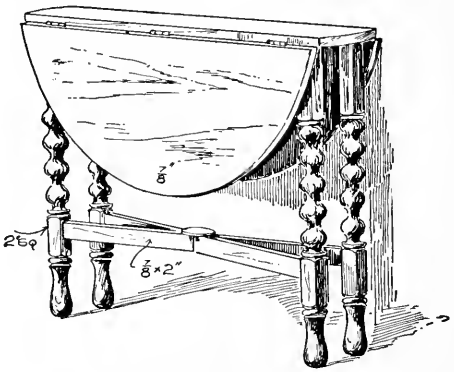


Fig. 52—An English Breakfast Table with 36x36 Inch Top

finishing cap will provide one of the many ways of throwing open the legs to a square position under the table top.

Certain unobtrusive stops and a locking device to be provided to check the posts at a determined position. Whatever may be the diameter of the table, make the center of the table about 3 in. less than a third of the diameter.

The size of leg stock shown on cut is for the larger size of table, 48 in. x 48 in.

Fig. 53 is now one of the very popular forms of gate leg tables —most frequently made in mahogany. This fits in well with furniture of a mahogany order, as does most of the William and Mary style, of which this is a suggestion.

The gate with the halved out post A fitting into cross rail correspondingly halved in a loose fitting manner, pivots or swings

out from post, loosely pivoting on top of rail. The corresponding gate on other side of table swings out in a similar but alternating direction, stopping at a check at right angles with the

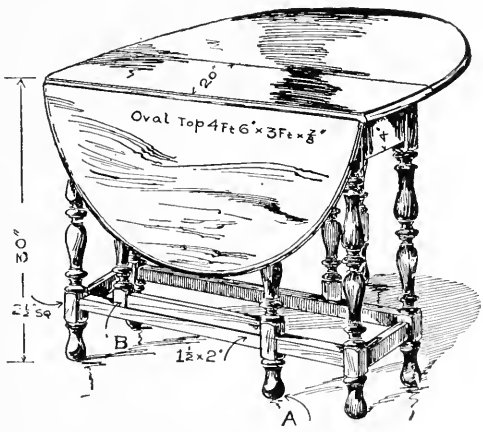


Fig. 53—A Gate Leg Table

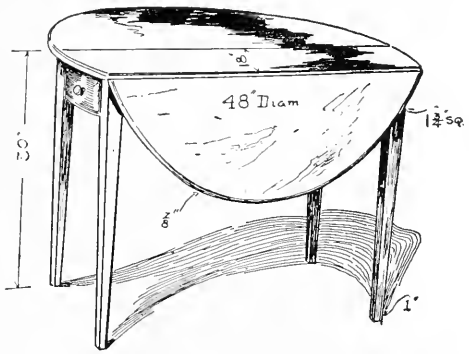


Fig. 54—A "Sheraton" Dining Table, 42 or 48 Inches in Diameter

table frame. All dropleaf tables should be treated with a rule joint contact with leaf and top of table.

Fig. 54 meets with favor now even though its class was replaced by the pedestal table, yet it, too, has the merit of side wall attractiveness which the modern table cannot have. The

leaves are usually supported by a stiff swinging cross bar set into top of apron rail. Care should be used in the selection of dry lumber for the tops and also to screw on a batten, using *no glue*, but setting each screw in a small slot so that the top may shrink and expand unretarded.

Mahogany, or birch finished mahogany, is properly the wood for this table and more particularly if it is made in a smaller size than a 42-in. top.

We used to feel very well satisfied with the ordinary dining table and a direct communication to the kitchen and the pantry, but now our needs, through a process of refinement, must take on considerable complexity, all of which adds to home charms and the wife's pleasure in displaying in an attractive way and on suitable furniture her growing collection of silver, cut glass, decorated ware, and last but not least, her linen, for every day or on festal occasions. This requires us to show Fig. 55, a serving table, which is very simple and plain, being a sort of second cousin of the more aristocratic sideboard. It is one remove from the buffet and consequently about fits in with our modest ideas of living and the useful furniture we need about a bungalow or that class of home.

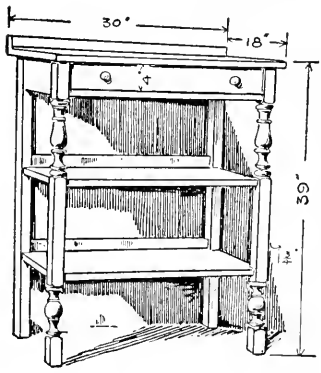


Fig. 55

Little need be said about this except that a form of frame made similar to one suggested in Fig. 62 is to be used as a base of construction and the two lower shelves are to be cut out and fitted in a similar manner. The shelves may be secured to posts from the underside by means of a counter-bored screw hole bored on a long slant. This simple sideboard is becoming a necessity, as in a home without servants it permits of extra table furnishings and the desserts to be placed in readiness before the meal is begun, thus creating greater repose for the housewife.

Fig. 56 offers a good substitute or even an adjunct to Fig. 55,

being a tray table which provides a proper resting place for the glass filled tray when not in use.

We do not pass the social hour or two without on many occasions being served with refreshments, and the tray has truly become a necessary article, and like everything else an object of attractiveness and friendly rivalry as to who will own the prettiest tray.

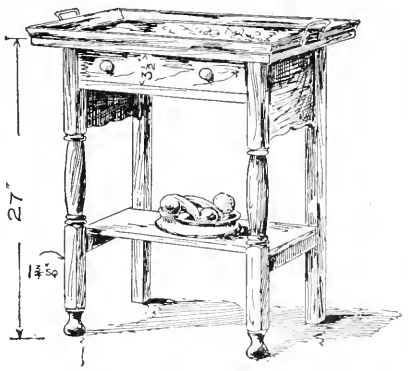


FIG. 56.

Fig. 56 may properly have a second drawer, although where the lower shelf might be used for a fruit bowl such an addition may destroy the decorative effect.

The glass tray, Fig. 57, which in this instance determines the size of table top for Fig. 56 consists of a moulding of oak or mahogany cut from a stick ¾ in. x 1¼ in. of a section, preferably the one shown. These pieces are cut to a mitered frame measuring over all 16 x 25 in. Long brads properly set in and concealed, or a ⅛ in. saw kerf run across the glued up frame at an angle of 45 deg. with a slip of wood set in glue and trimmed off, will probably produce a more dependable joint. A piece of good, clear, clean, single, thick glass, a piece of attractive figured cretonne with birds, foliage or flowers, a piece of dry thin board or flat stiff straw board, are to be cut to fit not too tightly within the rabbet size of the frame, then with a number of stiff thin brads securely nail in position; a small round reed or stick is sometimes used to brad in over the backing. As a final covering of this surface and also to extend over the bottom face of frame,

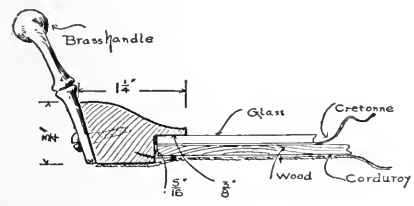


FIG. 57

glue on an extra large piece of corduroy, preferably brown, green or gray, starting from one end, and using some stiff paste, or rather thick prepared glue, which has little moisture. After this covering is set and dry use a sharp knife in trimming off the material overhanging outer edges. Brass handles are now to be had for such trays and care should be taken to set the screws into the light frame in a prepared hole small enough to make the screw draw up firmly.

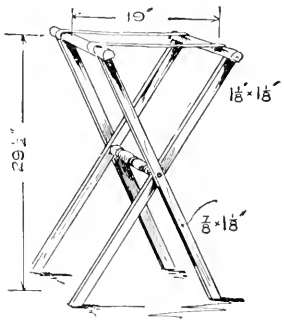


FIG. 58

Fig. 58 is a collapsible table or stand to support tray in kitchen or pantry when receiving contents previous to carrying to dining room tray table, Fig. 56, or in to guests during some social gathering. It is quite a useful article for large gatherings where other table space is being used and is also necessary for the welfare of a handsome tray when away from its proper place.

The Sewing Table

Among the many kinds of tables the sewing table provides an orderly place for materials and ample space to lay out work on the top and extending leaves. The plain and less expensive type shown in Fig. 59 in Mission style is here used as a basis for any different treatment the reader may wish to give it and not depart from form or size of parts. The legs may be treated with a squared neck or lessening of stock under the lower drawer frame and the major part of post reduced to a taper and expanded again before it reaches the floor into a square ball effect; or this full length may

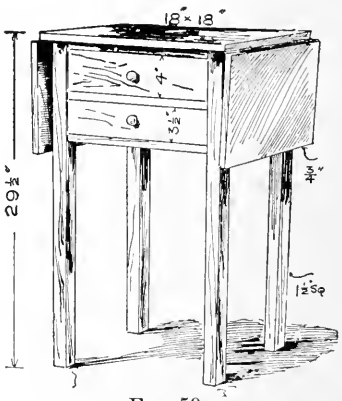


FIG. 59

be turned by using some well selected taper form. The shelf and top may then be treated with a moulded edge and slightly rounded corners and the rulejoint be used instead of plain square.

Fig. 60 is a more pretentious table properly made in mahogany. This is the type the interested worker will find gives him the opportunity for skilled workmanship and in the drawers he may insert various small compartments and specified divisions which would delight the future possessor of such an article.

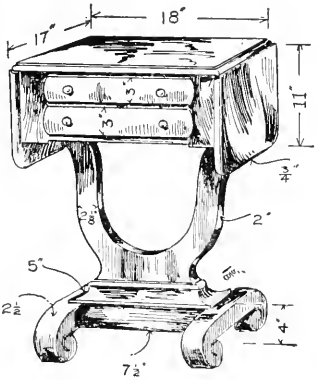


FIG. 60

By the use of Fig. 61 the manner of glueing up stock is shown and may be restored to produce a flowing shape or outline which is frequently wider than stock obtainable. The heavy line shows the proposed shape of one-half of lyre pedestal to work table, Fig. 60 allowing length for large tenons, top and bottom "A" to fit in mortise in frame, Fig. 62, and the lower tenon to fit in moulded base above scroll feet in Fig. 60. Before the outline indicated in heavy line is sawed out, unite the two halves by glueing. This will enable you to use long clamps on flat surfaces. When dry saw out on band saw and cut tenons.

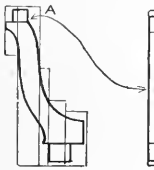


FIG. 61

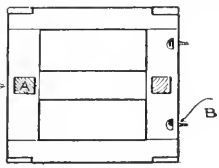


FIG. 62

The frame, Fig. 62, here shown is a base in most all forms of modern construction of carcase work. If the reader will inspect any available piece of furniture of a case of like nature, he will find this frame to be a convenient one upon which to secure other constructional parts. In many instances it is not in outward evidence, while in the case of the sewing table, Fig. 60, it appears between the two drawers and above and below. Where thus exposed to view the stile should either be faced with veneer

or be of the same kind of wood as the entire construction; these frames otherwise may be made of inferior wood, generally of ¾ or ⅞ in. thickness and 2 or more inches wide, judgment showing whether one or more cross bars will be needed for extra stiffness.

A preparatory working drawing which you should make will indicate where you are to relish out the corners, as instanced in Fig. 62, to provide a place for the jamb blocks on each side of drawer. The ends of the carcase hidden by the drop leaves in the cut are glued and secured by screws to these frames by screws countersunken or set in, as shown at "*B*."

Use of Corner Blocks

A double insurance of strength and stiffness is always secured in cabinet work by setting in frequent corner blocks; these may be made of neatly cut triangular blocks or strips two or more inches in length.

The upholding of the drop leaves may be secured by various means and I take it that if it is a pleasure to construct an article it is equally interesting to study out and provide certain ingenious devices which further embody personality in one's productions. Various holding-up methods are used on such tables, the simplest possibly being a swing bar, space for which must be provided for its action under the middle part of the table top, or sufficient space may be provided on your drawing so that the middle top shall hang over sufficient to hinge to each side of the case a ¾ in., swing bracket long enough to properly support the drop leaf when drawn up.

Our broad-handed way of living makes the subject of tables very varied, as each room appears to demand a special form of table, but I am going to give the parlor scant attention at present, for that room is falling much in disfavor. Fig. 63 shows a very popular and approved form of convenience table for the living room: It is of the Mission order, yet to those who wish a less heavy effect, the left leg is shown turned in the Elizabethan

style, which will be found to modify the over-weighty appearance, and permit of its use in greater harmony with a mixed assortment of furniture patterns, which are generally to be found

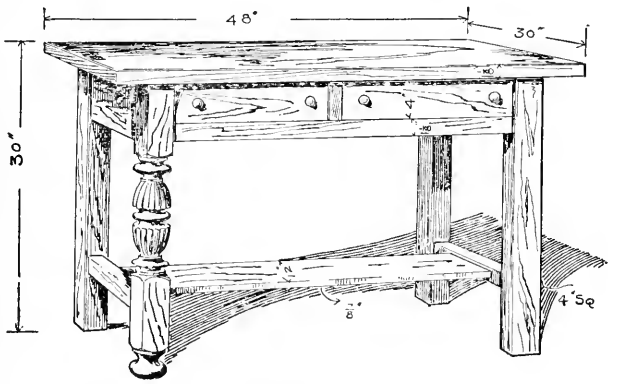


FIG. 63

in a living room. Such tables are generally made in three sizes, 40 in. x 30 in., 42in. x 28 in., and 36 in. x 26 in.

Fig. 64 is a graceful form of table adapted to a ladies room, parlor or reception hall and should be made in mahogany or other rare wood.

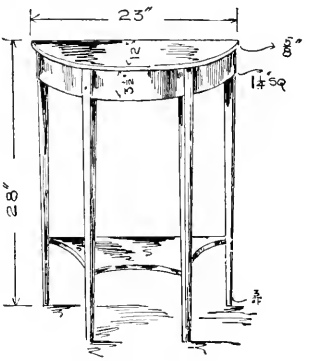


FIG. 64

The top is semi-circular and the apron is sawed in conformity and set under very slightly, about $\frac{3}{8}$ in.; the legs are $1\frac{1}{4}$ in. square and mortised between the aprons and reduced by a taper to $\frac{3}{4}$ in. at floor. By making a small grooving tool or plane a groove of $\frac{3}{32}$ in. square may be plowed in $\frac{1}{4}$ in. away from edges of legs on front and also on apron front and one groove in edge of table top, into which may be set in glue a strip of wood or veneer of a lighter color. Let dry and then scrape flush with cabinet scraper and sand smooth with No. 00 sandpaper.

The Telephone Table

The telephone table, Fig. 65, I am sure will be highly valued in the home, particularly by the feminine members of the family.

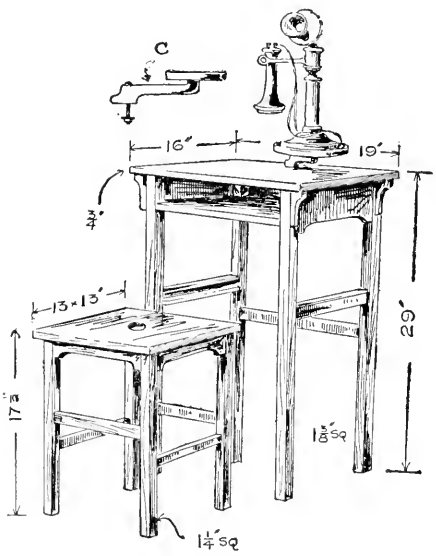


FIG. 65

The style is a modified type fitting in well with the "Mission," "Quaint" or "Arts and Crafts" style so prevalent. The simple general form is one permitting various changes in leg treatment and shape of outline to apron, the interposition of turning above and below the stretchers of a character similar to the "Early English" or "Jacobean" patterns shown on page, 14, will enable the interested reader to produce a variety of styles of this most useful table and stool to match. An undershelf in table provides for the telephone book. The top, shelves and side rails are of ¾ in. material. The table stand is so made with the side strainers or stretchers provided with a groove and projecting lower lip to carry top of stool when it is slid in out of the way. A 1⅜ in. hole is bored into center of stool top to facilitate withdrawing it. A wooden arm represented in "C" and a turned disk to hold telephone stand is secured by a bolt with nut and washers to table top at back so that instrument may be swung back or forward for convenience.

CHAPTER II

ESSENTIAL TOOLS AND EQUIPMENT

ORNAMENT ON FURNITURE

TO later call attention to certain essential tools, an apt subject for illustration is the hall seat, this being largely within the province of the joiner and the general scheme of interior case work, and indeed it may be made a feature of the wainscot of the hall if so desired. In this instance we will consider it as a movable piece and use it as a model with which to convey to the reader certain information regarding detail which he will doubtless appreciate if he proceeds to lay out the drawing and construct one.

The style is plain, almost severe, as shown in Fig. 66, the charm depending solely on the easy line of the end piece and foot in its relation to the arm. The rare beauty in good furniture is to create that smooth roundness or undulating surface which the worker, an enthusiast, alone knows has not been produced successfully by mere machinery. It is this changing surface which even the artisan does not fully comprehend until after the final finishing to a dull polish, when the effect of the lights and shadows brings out the

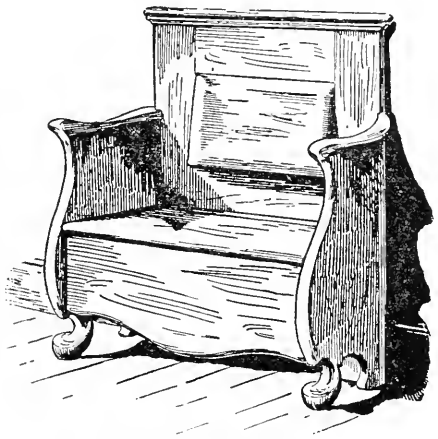


FIG. 66.—General View of Hall Seat.

personality of the work. This grades it far ahead of the "cut and dried" mill work, how ever much we may admire the monotonous precision.

As the drawing is sufficiently explanatory, little need be said other than to enlarge it upon the drawing paper. Starting with the vertical center line and the floor line, as indicated in Figs. 67 and 68, lay off from these measurements taken from the cut—

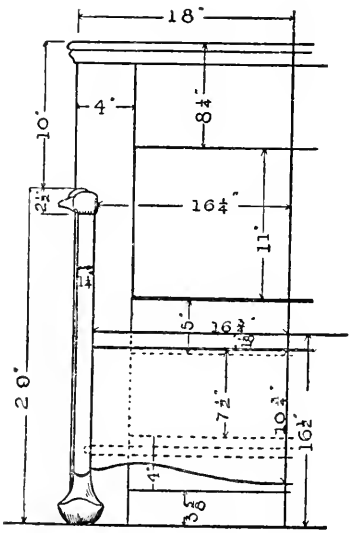


FIG. 67.—Half of Front.

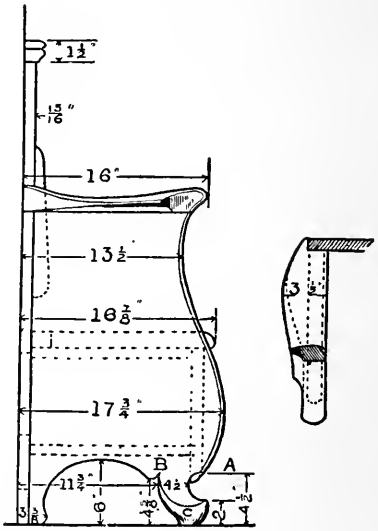


FIG. 68.—Side Elevation with Detail of Arm at the Right.

height of seat and arm first—and as a guide against going very much astray on a changing line we have thrown out a few light lines and measurements from the floor line of front and end views. This, with a little judgment and observation of relative points, will enable the workman to enlarge that portion of the detail which cannot be done by a straight edge. Draw the arm as though it were closely related to the end and front line; it will be finished flush, as it joins to the front edge. The bottom line of the end must also be made with a free curve and as though it were cut from a solid width. However many pieces one may

use in joining the board, it will be surfaced and considered as one piece. The back part consists of a square framing, as shown, with stiles continued to the floors. Through these and the bottom rail screws are put in from the back and secured to the end piece, seat and the arms. Below the seat line and at the back and under the exposed bottom rail a cheap paneling, and then a bottom rail must be embodied in the construction of the back framing. Through this rail screws hold the bottom of the box under the seat. The bottom may be of whitewood or other low-grade lumber, the seat ends being gained to receive it and the front edge snugly fitted to front board and held with a few glue blocks underneath. Stiles and rails in the back framing should be joined by a mortise and tenon joint, the end pieces secured to the front panel under the seat by three flathead screws, sunken and flush plugged with wooden plugs to match the grain.

The seat is raised from the front and hung by three 1½-inch butts screwed to a 2-inch strip, which in turn is screwed to the back rail. A resting cleat should be neatly fitted in directly under the seat and screwed to the inside of the ends. It will be noticed in Fig. 68 that the back center panel is inclined forward at the bottom. This inclination is more restful to the occupant than a vertical position and adds much to the design. The edges are worked off to a long round. When measuring stock for this panel 2 inches extra should be allowed on the ends of the panel, these to be cut off and glued to the ends on the back and a strip glued on at the bottom. This gives stock on the edges to produce the long round and to advance the bottom edge as shown. The entire panel being fitted, slip into the opening ofthe frame on this bevel and it is then held by glue blocks in the rear.

Aside from the drill it gives in laying out a correct working drawing, the foregoing description need not be expressed on the drawing, merely the definite points and marking outlines being required. The minor details are much a matter of trade experience and judgment. If the drawing is to go into other hands all features should be intelligently drawn.

There are several ways of transferring irregular detail or ornament from the drawing to the stiff paper which one may cut out as a pattern to mark the stock. Closely prick the marking lines of the drawing and, laying stiff paper underneath, use chalk or charcoal dust held in a piece of linen tied in the form of a loose ball. This is pounced over the punctured lines, thus imprinting the dots on the paper underneath. Another way and one very satisfactory is to place the pattern paper under the drawing with a sheet of typewriter's carbon paper between and then trace over the outline with a steel or agate tracing point, the transferred outline being then carefully cut out with scissors or by following the line with a sharp-pointed knife over a hard board.

With the patterns secured, the stock surfaced to the right thickness and the edges jointed, it will be found very satisfactory while the drawing is still pinned to the level table to mark off the points, placing each piece represented up to the line and with a flat square marking the line or bevel, also at same time marking the position of dowel, screw centers or mortise and tenon. Should there be two or more pieces alike bring them together on the level surface, and by the point marked line them all with try square and do other necessary gauging, which will not make it necessary when at the bench to interrupt operations by taking off more measurements. Care should be taken when using marking gauge not to run out onto an exposed surface, as this is a weakness with some workmen and shows up badly in the finish.

The band saw, whether driven by foot or power, is nowadays in use by many carpenters, or at least they have easy access to one, and the simple outlines of this pattern may be readily cut out. In the absence of it, however, it is not so intricate but that it may be cut out, even though roughly, with a keyhole or, better still, a "turning" saw and the outline worked true in the after dressing. Using a band or scroll saw, the ends may be glued up in a solid width and sawed true to line. Should the line have to be cut in some other way it would be well to figure the front edge from a 6-inch width, securing the line and that of

the under line before gluing together. The foot, or modified type of "bandy leg," is obtained by gluing to both sides of each end with a rub joint a piece of equal thickness and 4½ inches long. In order to get a similarity in grain use blocks from the same piece of stock, arranging them, if necessary, to joint with reference to the grain. An even shade will at least be assured even if it be impossible to satisfactorily match the grain. It is sometimes possible to carry along all details in the construction to a "knock down" condition—that is, assemble it for a trial fit before giving attention to working off the edges. In this instance the various parts had better be worked up to the final

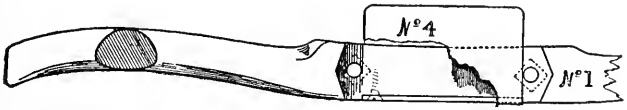


FIG. 69.—View Showing Half of Stock Dressers' Scraper.

sanding, this involving the branch of furniture work termed "stock dressing," the producing of changing surfaces and molded edges, which cannot be done by machinery without considerable preparatory expense.

The tool illustrated in Figs. 69, 70 and 71 is very essential in performing this class of work. It is strange that, with the many uses to which it may be applied, it is seldom found in the hands of others than skilled cabinet makers and particularly chair makers, where twists and winds in the construction render it a necessity in creating a beautiful curved or sinuous surface across two glued-up parts, as in shaping sawed legs, and many other uses as an after finisher of roughed-out work from the draw knife or spoke shave, or in tapering off plain molds.

The tool is not to be obtained through regular hardware supply houses, it being one of the instruments "handed down," so we give the detail and would state that it is very easily made. The part marked No. 1 in Fig. 69 represents a little more than one-sixth of the full length and size of the handle portion. The wooden parts, Nos. 1 and 2, the latter being shown in Fig. 70,

are made of beech or maple, the center part in Fig. 69 being cut out, as shown, to half the thickness, and a corresponding piece, shown in Fig. 70, fitted neatly within it. These two parts are protected on the working face by small plates of heavy sheet brass, or much better, a piece of bone, as shown at the bottom in Fig. 69, flat-head screws being sunk, used flush and filed smooth to the plate. Previous to fitting these plates the two wooden pieces are slightly beveled away from the center, as shown at No. 3 in Fig. 71. The inner face of Fig. 70 is cut out, as shown by No. 3 in Fig. 71, the length of the recess on the pro-

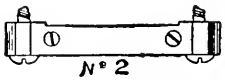


FIG. 70.

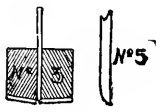


FIG. 71

tecting plate seen in Fig. 70. This is similar to the throat of the plane. The protecting plate in Fig. 69 is a straight strip similar to that in Fig. 70, but without the recess.

The manner of holding the parts together and binding the blade to a set position is by means of two 1¼-inch stove or slot-head bolts, passed through hole shown in Fig. 69, and in a corresponding position through Fig. 70. The nut of the bolt is sunk flush on the outside in Fig. 69, as shown by the dotted lines. Small washers are imbedded in the sides of Fig. 70 to prevent splitting.

The tool is now ready to receive the blade, and when all parts are brought together the part No. 2 in Fig. 70 should almost come in contact with the part shown in Fig. 69 when screwed up tight with a driver. The scraper blade, No. 4 in Fig. 69, is set between the two wooden parts, Nos. 1 and 2, and may be made from a broken hand-saw blade, about the gauge of a finishing saw, or a regular hand-scraper blade of good steel may be used. When sharpened for use the edge would appear as shown in an exaggerated way in No. 5 of Fig. 71, the edge having previously been ground on an emery wheel or grindstone to a firm, long round on one side only, then trued on an oil stone, leaving a heavy edge, sharp and square. The object then is to turn down

this keen edge, not simply making it a wire edge, as practiced on a cabinet scraper, but by means of a polishing steel turn it over evenly and with considerable pressure produce an extended edge of some permanence.

The polishing steel may be made of an 8 or 10-inch discarded rat-tail file, ground smooth and polished with emery cloth. The end has an obtuse point identical with a center-prick punch for metal. This instrument, which is easily made, when handled resembles a butcher's steel. To use the steel place the scraper blade, which has been squared on an oil stone, between the jaws of a vise or other clutch, rounded edge up and toward you. Starting in with a gentle pressure of the steel held in both hands, stroke the squared edge down and away from you, back and forth, in an even way, increasing the pressure for some time, when you will find the edge to be quite extended and beginning to curl against the face of the blade. Remove the blade from the vise and with the steel point touched with a little oil apply the point at one end of the blade, which should be held slanting against a flat surface. With a firm and careful first stroke one will be able to slide the oiled point between the turned-in edge from end to end of the blade, thus pressing it out at any angle desired, stroking it several times to secure a firm, straight edge. What this angle is must be determined by the operator of the tool, for it depends altogether on its relation to the beveled face shown in No. 3 in Fig. 71. It is a matter of experimenting, as with the adjustment of plane irons or spoke shave blades. When the blade is inserted, with back against recess in Fig. 69, fit the part in Fig. 70 in place and insert nuts in pockets cut in outside of Fig. 69. Slip the bolts with washers through the two holes on the side of the part in Fig. 70 and draw up tight with a screw driver, allowing the cutting edge to project slightly for a trial. By experimenting on a piece of oak one will know either that the edge has been pitched too low or not enough, by its digging in to greedily or by not cutting at all. Remove the blade, place it in the vise and remedy with the polishing steel.

A disposition to "chatter" is sometimes located and remedied by filing in a more rounded manner on the protecting plate under

No. 1 in Fig. 69. With a few peculiarities to overcome in getting the "just right" adjustment, one will appreciate having an extremely useful tool for irregular surface work, or for reshaping hatchet or other handles to your own particular form. It is essentially a hard-wood tool.

On the same basis of construction as that already outlined, a convex scraper may be made, by arching the central part of the handle to any desired curve and making the blade in conformity. This tool is used in shaping to a finish the hollow or saddle surface on wood-seat chairs, the roughing-out work being effected by a mallet and gouge, followed by a convex shave similar in round to the scraper. As a necessary adjunct or rather a preliminary tool, the spoke shave, Fig. 72, has much to do in preparing in an easy way the surface or edge, before using the scraper described. A form of this tool is to be had from hardware dealers, but like many bought tools and a few all-metal tools, it does not appeal to the men whose work requires a spoke shave. The illustration, Fig. 72, shows the form of handle,

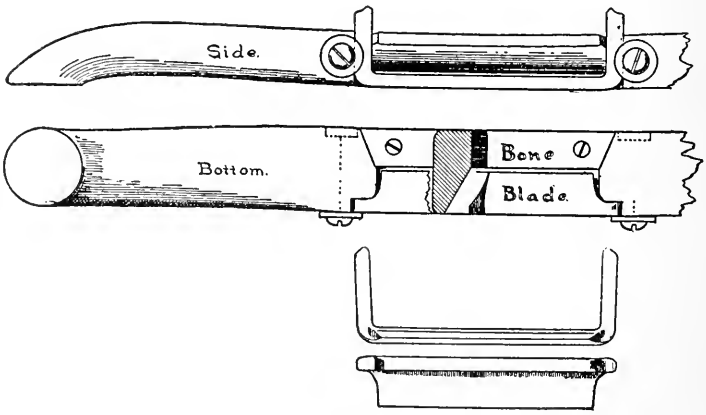


FIG. 72.—Details of Spoke Shave.

section and tightening bolt, which is set in a similar way to that of the scraper. The blades can be bought of different sizes. A handle made for a small blade, such as would readily cut the edge of a portion of a 3-inch circle, would be found very service-

able, with one large tool for heavy work. It is suggested that a plate of bone be used for the heel of the tool instead of brass; a strip sawed from a beef shank, inserted in the wood handle, held by screws and filed to a flush finish, causing the tool to work more freely than metal. A little oil wiped over it now and then will add to easing the work.

Now to the application of these tools to the hall seat and other furniture forms. With the work all in the square-edged state, note what is desired—a reduction of certain surfaces and edges beyond the range of any shaper knife, universal plane or other tool running in a set form or along a gauge.

The panel above the seat is the only part of the back on which the edges will be rounded off in a vigorous way. After having been fitted to the exact position it occupies in the opening of the frame and marked with a scribe line, remove and secure it in the vise, edges up, or else screw on temporary cleat blocks in back and catch this in the vise. This is a better way for stock dressing, as all edges and surfaces are up to view, and a full sweep is given in reducing the stock in a symmetrical way. This work creates a feeling for form and trains the eye to considering an even balance of right and left. A $\frac{5}{8}$-inch sliver at the least should come off the edge at the start, and the draw knife is brought into use to do it quickly and easily; then with the spoke shave begin the rounding, taking care not to run too close to the scribe mark or the edge. With an easy swing, work well over onto the surface, so that there is one continual roundness. The surface is now reduced to a condition where the scraper tool is brought into use. With this remove all streaks and smooth over with the grain and diagonally across the grain at the ends. Noting the grain and being in thorough sympathy with the "varying moods" of wood growth is everything in using this tool successfully after the adjustment of the blade and heel plate is to your satisfaction. An after-finish with the cabinet scraper blade prepares the surface for sanding with No. 0 sandpaper, using the sandpaper block and then the loose paper. The front edge of the seat is molded off in about the same way as the back panel.

The draw knife will again be required in removing the edges of the end pieces. The full sweep of the line from under the arms to the termination by the curve above the foot will be molded evenly on both edges to a half round. This will make a contrast to the foot, or "bandy leg" below, which is rounded off from a square edge at A, Fig. 68, in an easy sweep to a shade off onto the surface at B, keeping full width of blocks at C, this work, of course, being carried out at both sides of the end. We remove the square corners of the glued-on blocks in a decided manner with the draw knife, thus reducing them in a roughly rounded condition to that of the side line. Then take a gouge and mallet and cut away the superfluous stock intervening of the glued-on blocks between A and B quite down in a slanting manner to the middle surface. With a pencil mark from top of toe a curved line illustrated in the foot, shading out at B. When such a line is to be marked for a number of pieces a pattern should be made of zinc, with a check or stop at B and at the floor line. This being slightly bent in conformity to the roughed-out part, the line may be marked out quickly and with accuracy.

As the original sample is being constructed, this is a part of the work where the eye, and a decision as to what looks right, must be exercised. Using more care with the gouge, cut near to the line, both legs being worked away in this rough state. Continue with the spoke shave to round off the bottom portion under the marked line, almost in the same manner that a lathe would do it, shading off the rounding at B. Here we shall have to resort to a chisel, as the shave cannot be worked. This is to be followed by a coarse half-round wood rasp, using the flat side for the under part of the leg, and the round side to be brought into use on the upper and curved surfaces, where the shave and scraper will not go. Having satisfied yourself that the leg has been worked into a trim, evenly balanced form, finish with the cabinet scraper and No. ½ sandpaper. If the glue joints are good, the joint should be very little in evidence. The arm, which has been fitted and scribed underneath, where it rests on the end, is now to be treated to a low round on the face, and the nose rounded off in keeping with the flowing line underneath;

then, as shown in the illustration, it is coved out underneath on the outside, shading out as it nears the back. The serpentine edge of front board is shaped off with shave and scraper; this leaves no square edges on the construction except on the back framing.

A convenient holder for shaping arms, legs and other irregular parts with the spoke shave and scraper is shown in Fig. 73 of the illustrations. The outline of the wooden yoke and the length are optional. The one shown is in use for many purposes,

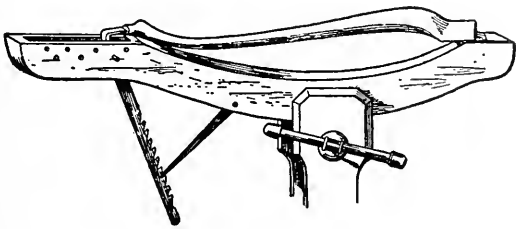


FIG. 73.—Holder for Shaping.

and consists of a 3-inch piece of stock, sawed to shape, having a long mortise in one end and a number of holes piercing it for a loose pin. A hard-wood stick, tapered and elastic, notched as shown, and provided with an extended metal prod, is adjusted in the mortise at any place desired and secured by the pin passing through it. At the other end of the yoke is a projecting metal stop, and, as shown, underneath another hard-wood stick is recessed and secured with a loose pin, and the other end tapered to slip in the notches. The piece to be shaped is set on yoke, against the stop, with the notched stick secured in proper hole; it is then pulled forward, both ends are sharply dug into, and held in that position by the swinging stick underneath by slipping the wedge end into a notch.

Having completed the shaping of all parts, the work should be carefully glued up. A temporary clamp or squeezing device may be arranged on the floor in gluing up the back framing. Three or four bar clamps are a necessity, with several smaller steel or cabinet makers' clamps at hand to avoid any bungling

in bringing the work up tight while the glue is hot. Too much cannot be said concerning the importance of having good, fresh, hot, easy flowing glue, and in real cold weather the parts well warmed when clamped together.

While the trick of dragging screws over a bar of soap may be known to many carpenters, it is worth doing in all hard-wood work, as it makes them drive very easily and quickly when gluing. There is great satisfaction when all parts are united in a solid construction by good joinery and glue to run your hand over the work and feel that it has beauty combined with utility, or note, as a whole, where some part might be improved by making the line or surface easier. It is just as important for the joiner to inspect his work from a distance as the artist finds it of value to step back from his picture to note the distance effect of his painting. Arbitrary lines or detail expressed in a drawing may have to be modified by your better judgment when viewing the form complete.

The subject having been detailed from the drawing throughout, the matter of finishing will be taken up, but in passing it might be well to state that a chair, sideboard, or other piece of furniture on plain lines, would be treated in much the same relative way in drawing it full size, and the various parts shaped or described. On certain constructional forms, where glue joints are required to unite several parts in an unbroken line—characteristic of many "Dutch" chairs of the early colonies—the rough stock dressing is done before gluing and after jointing and fitting with dowels, sufficient wood being left near the jointed edge to insure working it away to an easy, graceful line after the parts have been glued up. No attempt should be made to do this in a trial fit. Always consider construction as a unit.

Finishing

Having treated of this subject in a slight way at the inception of our work, we need to particularize now that the hall seat is ready to finish. Assuming that it has been made in oak, particular care should be taken that it be thoroughly smoothed over with at least No. ½ sandpaper, rubbing along the grain only.

Next the color of the finish must be decided upon, as that is embodied in the filler. Many modern interiors are still being finished very near to the natural tone of the oak, and should this piece of furniture be made for an interior in this color it would be proper to finish it to match. However, this is not arbitrary with movable pieces of furniture and the prevailing finish is in the standard golden oak, which is readily obtained from varnish dealers. In remote places, where golden-oak filler is not to be obtained, secure a gallon of white filler and add ¼ pound of raw umber and ¼ pound of burnt umber; thin the mixture with turpentine. If, after trying one piece of wood, a darker shade is desired, add more umber; if a lighter shade, add dry raw sienna, or turpentine and oil.

When the desired shade is secured, apply with a brush and leave to dry for a few minutes. Then wipe off with a coarse rag and clean dry with cheese cloth and leave dry for half a day. Sandpaper with No. 0 sandpaper. Treat the work with a coat of orange shellac, allowing a day to pass before rubbing over with No. 00 sandpaper; then put on a second coat of shellac and rub down after hard and dry with sandpaper, and apply a final coat of hard-oil finish, and when this is thoroughly dry the surface is treated to the oil-rubbed finish, which leaves a finish which will always be durable and pleasing, as it does not have the intense shine of cheap-varnish finish. A rubber made of listing, or a long narrow strip of suit cloth about 2 inches wide, rolled up tight and wound through the middle with twine, is more serviceable than a loose piece of cloth or heavy felt. This rubber, dipped in a semi-liquid mixture of raw linseed oil and powdered pumice stone, is applied to the surface in a circular motion, and after a little practice, and wiping with a dry rag occasionally to watch how evenly the work is progressing, you will learn just the amount of energy to apply. When this entire piece has been worked over, clean off with a clean rag the excess oil and powder and go over with another dry cloth—cheese cloth preferably—bringing the surface to a good dull polish. This surface will always be benefited by after-rubbing, or dusting, and may be brightened after a long time by rubbing over it a mixture of a

third quantity of turpentine in raw linseed oil, using a small portion poured on a part of a cheese-cloth rag.

It may be stated without fear of contradiction that handy devices are either the result of a sudden inspiration or a "simmered down" way of doing a thing better than at first anticipated. Competition is in most cases accountable for short-cut methods and apparatus quick and double-acting. No live man, however removed from active centers or in whatever line of work he may be engaged, can afford to handle unnecessarily or back track on his work. It is unwise in these times to do things the long way, as one's time for rest and recreation is equally valuable with the same time occupied in doing work piece by piece. Those who lack inventiveness should cultivate observation, for many a man will come on the scene who attracts attention by getting through his work and having plenty of breathing time. Upon close study it will be found he has some method or handy contrivance which he has wrought out as the result of time and experience.

From making boxes, one like another, all the way through the range of constructive work, thought should be used in "coming out whole" on a job, whether it be a personal expenditure of time and energy or figuring against a competitor. This businesslike calculation is sure to be valuable "when out for business." The modern factory is augmented throughout with apparatus and devices solely of a hand-power class, holders and markers being used to prepare the work for unskilled hands at the machine. This "setting-up" practice solves the problem of the ability of a factory to figure closely. In other words, brains think out every detail before a stick is cut. The factory manager holds no patent right in taking a short cut across the field of competition; the same conservation of energy should prevail in the shop.

The illustrations presented herewith are simply memoranda jotted down from time to time and given for the purpose of bringing forth other devices which the reader may have found to circumvent time and lessen labor. Frequently the spying-out of some portion of a broken-down machine will offer a suggestion

in the making of a tool or the building of another machine adapted to one's needs.

In Fig. 74 a very handy clamp made from an old crippled hand screw, the jaws having been reduced to the shape shown and 6 or 8 inches in length; one screw being used, the scope is limited

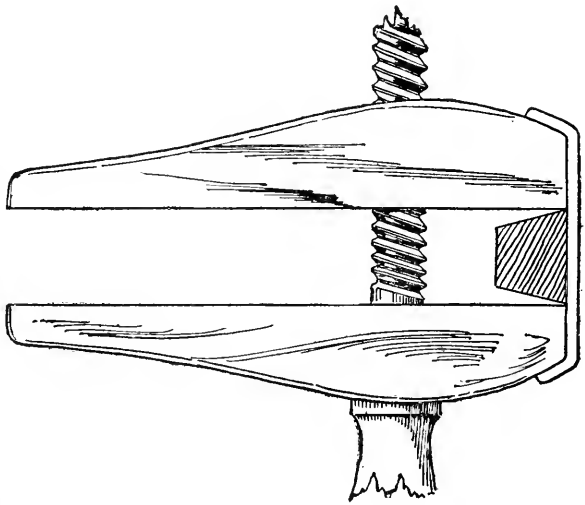


FIG. 74.—Handy Clamp.

by the filling-in block, as shown, which is connected to the jaw ends by a piece of belt leather glued and braded. Two or more of these clamps at hand will be found very useful in repairing, gluing up or temporarily fitting parts. To be without clamps of any decription is in connection with gluing up work like losing the oars of a boat in midocean—very embarrassing—for it may only require a little force in a concentrated form to send the parts home. This very frequently is impossible, even though resort is had to a block and a mallet.

An apparatus which is powerful yet portable and which will be found useful when many frames are being made up is illus-

trated in Fig. 76. The wheel, screw and nut have been parts of an old machine. The heavy block through which the screw

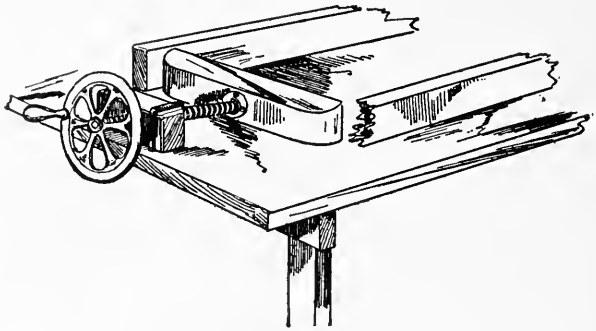


FIG. 76.—Wheel and Screw Apparatus for Making Frames.

passes is held firmly to the bench by two heavy staples clasping and passing through the bench top and washer plates underneath, where they are drawn tightly by large nuts. In default of the wheel and screw the form shown in Fig. 75 is very effective. Certain holes may be made in the bench to receive the four bolts

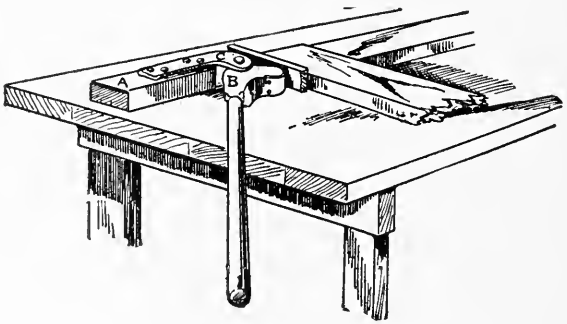


FIG. 75.—Another Form of Frame Holder.

in the block A and the large bolt in the block B. This will permit of the press being readily removed or set up when needed. The enlarged handle is reinforced by a piece of heavy brass plate secured well up on both sides. The L-shaped iron C centers over the lever with a washer intervening on the bolt.

A squeezing press of a permanent form is indicated in Fig. 77, where the principles are clearly shown. It will be found a very

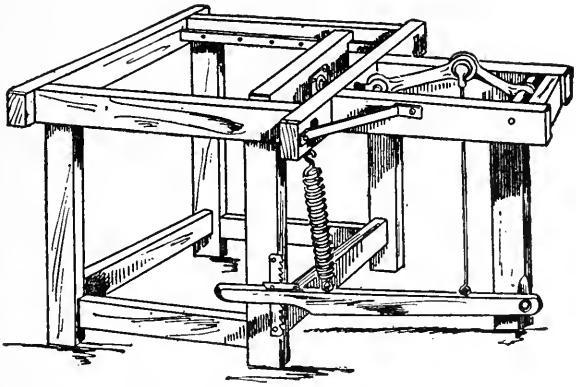


FIG. 77.—Permanent Form of " Squeezing Press."

valuable machine, as rails and stiles to small framework can be quickly brought to a tight, square joint. The notched metal plate attached to the post, as shown, permits of the tension being held until the glue is dry or the boring of holes and the placing of dowels are accomplished.

The sanding stick shown in Fig. 78 and found in use by a careful workman indicates what by some might be considered trifling,

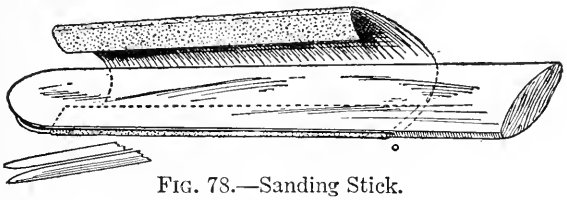


FIG. 78.—Sanding Stick.

but is a real essential when put to use. This stick will prove on further acquaintance with it to be a rival of a wood rasp. The sand, or, better, garnet, paper is held firmly and smoothly to the stick, allowing every bit of surface to be brought into use. The paper being cut overlapping wide should be conformed to the stick; then, with the two laps turned in, sanded side together, the

tube is slipped over the stick, the laps sliding into the saw kerf. The same principle is used on power-driven sanding spindles.

As the carpenter does not make use of a steel scraper as frequently as a cabinet maker, he may find the proper way to

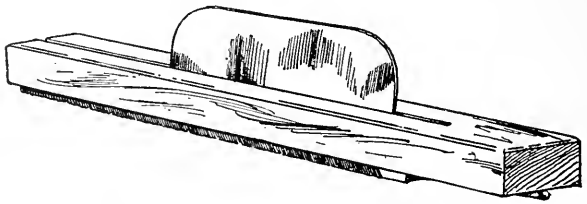


FIG. 79.—Device for Sharpening a Scraper.

sharpen for a continued use of that tool a little elaborate. Holding such a well-sharpened scraper in reserve, however, another blade for less severe use may be kept keen on both edges by adopting another craftsman's plan of having a flat, smooth file secured by staples to a stick and having a saw kerf just over the surface of the file. The blade when dull is then drawn through the kerf against the file, insuring a keen, square edge. A care-

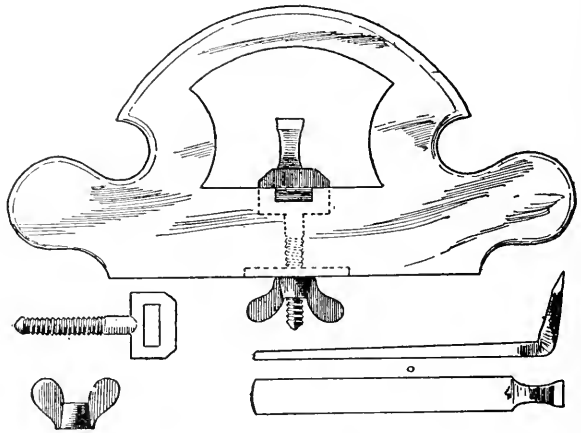


FIG. 80.—A Routing Plane.

ful study of Fig. 79 will demonstrate this point more clearly.

While there are all varieties of metal planes of a modern type many of them do not give the satisfaction that can be derived from the use of such a one as that illustrated in Fig. 80. In

this case the body is made from a dry piece of maple or beech. There is a certain easy slip of wood over wood which holds this and the smooth plane in favor with many workmen. By the aid of the blacksmith the manufacture of this routing tool is very easily accomplished and will prove of service in many ways, particularly in producing sunken work on panels and drawer fronts. The block is 2 inches in thickness. The thumb nut when in position on the screw which binds the cutters draws up against an imbedded plate, as shown. In default of the thumb nut an ordinary nut may be used.

Where a considerable number of wedges are used in expanding

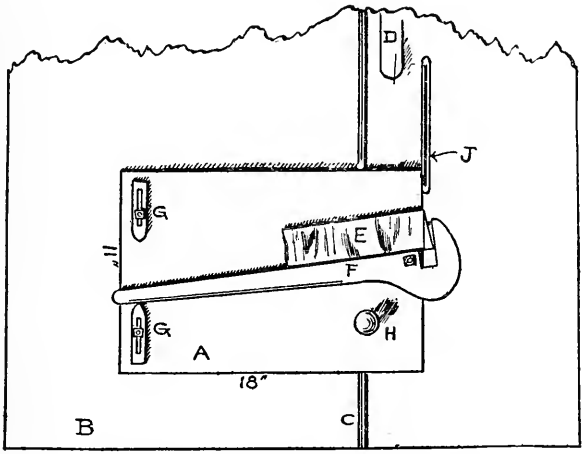


FIG. 81.—Device for Making Wedges.

tenons after parts are glued up the simple device shown in Fig. 81 permits of producing many in a very short time. The sketch shows a 1-inch board marked A laid on top of a cross-cut saw table, B. This board is provided with a fixed strip sliding in the table grooves C and permits of its movement up to the strip D, clamped for the time on the saw table. The stock E for cutting into wedges is placed against the handle F, which easily swings by the nut shown between the adjusted stops G G. The adjustment of these stops and also the wood screw inside of the hook end of the handle F determines the taper of the wedge,

whether obtuse or acute. The cutting is done by holding the board A by means of the knob H and pushing it before the saw, cutting the edge, as shown. In pulling back it is only necessary to press the wood forward to the screw and stop on the handle, meanwhile swinging the handle against the upper stop G for the second cut.

Having introduced the reader to certain tools quite essential in cabinet making, together with various handy devices other than ordinarily found among a kit of tools, it might be important to stock up on other working capital.

Before considering other forms of cabinet work for the carpenter, it is in place to study the subject of ornament as applied to furniture, and under the term, ornament, is included any embellishment not essential to the construction. It seems a fitting time to write along these lines, for at no period in the history of furniture, since primitive construction, has there been such a reaction against vitiated or excessive ornament, and it is a significant fact that a fad taken up by Americans represented in the "Mission Style," and also the strong influence of European crafts and guild workers in working along plain lines, has brought about this happy trend of taste.

The architect, designer or craftsman today is a free subject. No kingly patronage holds him to follow repeatedly the "period styles," which in this country are quite out of place in the homes of our democratic people. We may therefore be thankful it is the style to be plain and be surrounded by furniture of a plain substantial construction and outline. This state of affairs does not dictate absolute avoidance of ornament, for we as a people are extremists in some things, and already an easing-up of the straight line, and rounding-off of the sharp corner incident to the first "Mission" patterns is in evidence, and we have now with us the "Arts and Crafts," or "Modern," which possesses features refreshing and entitling it to be classed as a "style." Happily the "Arts and Crafts" being the vogue, it is one to which the carpenter can apply himself without the bench experience of a French cabinet maker, and to this end sketchy details are here given to guide him in the general requirements of brightening case work with ornament, relief or open work.

Co-operation is the keynote today more than ever, from the architect to the gas-fixture man, and the bride and groom of today enter the new home as one better designed and more harmonious than ever before, for the reason that good furniture and furnishing are designed in co-operation with a knowledge of the architect's taste.

Coincident with the plan is the rapid development of the cement industry, its many varied applications in architecture, the results, from its very nature causing the material to be permanently set in flat, plain sweeping surfaces or bold molded effects, or treated with openings of a square or rounded character, which neither admits of or suggests fussy jig-saw work. Its enduring quality will no doubt tend strongly to hold the designer and constructionist to substantial ideas for some time to come.

Supposing, then, we follow this thought in its bearing on relieving furniture from absolute severity of case. Going back to the "Mission Style," the old ecclesiastic carpenter in making the few pieces of furniture for the simple needs of his brother monks held to a rigid purpose of making a table from which to eat, a chair to sit upon—not a table or a chair of *a particular design.* Then, too, the lumber was hewn from the log and few tools were at hand to continue the work. These were deterrent influences for good design—that is utility first. However, he was not altogether clumsy or lacking in grace of line, for in the few examples from which the style is derived we see how he has tapered the lower part of a heavy table leg or given a square bulblike effect to a post, and in more elaborate pieces treated a back rail to easy curves with correpsonding hollows, mindful, no doubt, of things seen in his early days in Spain.

The monk, as well as many another, in effecting an enclosure by gate or barrier, adopted the idea of the primitive man who fenced in his first garden from wild animal depredations by tree limbs set at intervals and criss-crossed by boughs in the intervening spaces as in Fig. 82, then as the nations became more refined the Grecian idea came prominently to the front, and today we use more than ever the thought which is given expression in

Fig. 83 of the illustrations. This never fails to be effective and to the point in filling space.

The limb and bough idea will by a little study resolve itself into many simple and direct means of ornamenting panels, bases or spandrels, as noted in Fig. 84, 85 and 86. It is not treated

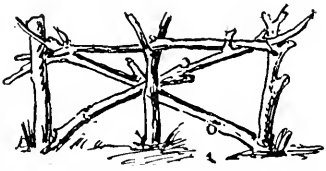


FIG. 82

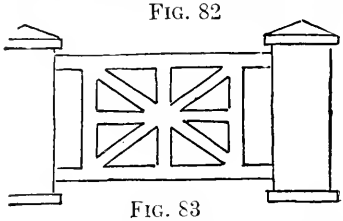


FIG. 83

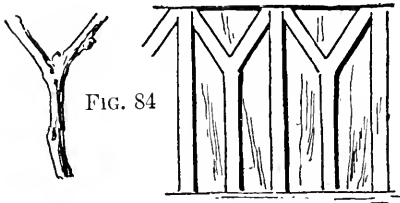


FIG. 84

FIG. 85

FIG. 86

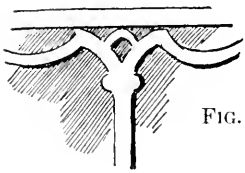


FIG. 87

Ornament in Furniture.

in a rustic form, for it then generally becomes a bad copy of a good bit of detail, and we have all gone through with the rustic idea in its out-of-place use. Rather catch the suggestion of the limb or bough and conventionalize it, as indicated in Fig. 87, which is as a mullion between case doors and branches out alike

on either side along a headboard. Such a treatment, as well as that indicated in Fig. 85 and 86, cut in thin material, say 3-32 in., is very effective when firmly glued on and will permit of the carpenter producing ornamental detail of a better character than most incised or glued-on carving. There should be no trouble in these chipping or finally dropping off and becoming a source of annoyance if care is taken and good glue is used with plenty of clamps at hand. A few invisible brads should also be used.

FIG. 88

FIG. 89

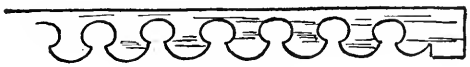


FIG. 90

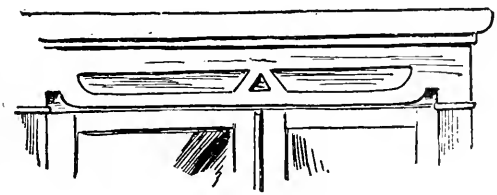
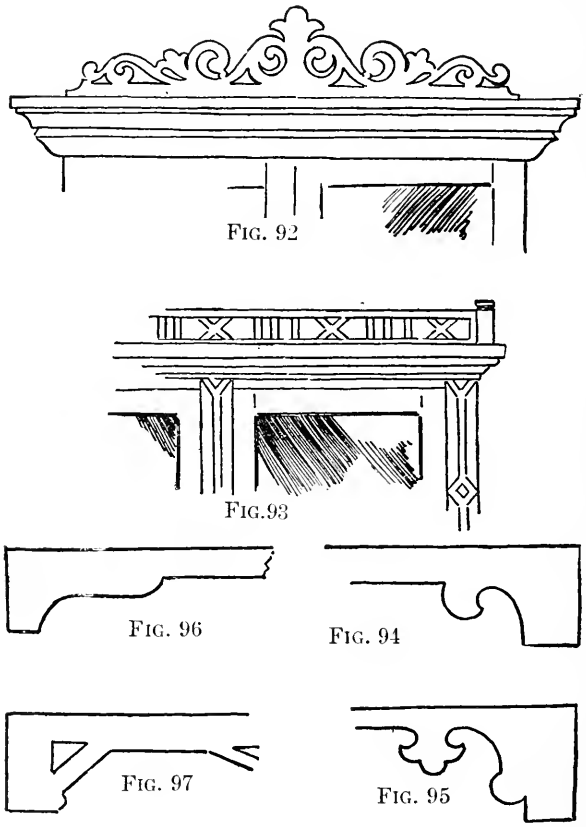


FIG. 91

Ornament in Furniture.

It may be difficult to convert some of the readers to "simple ways," when the band and jig saw, turning lathe and molder stand ready to turn out wonderful things in curious shapes, so a few parallel sketches are given to more forcibly show the desirable and undesirable. Fig. 88 is obsolete, and not only by reason of the difficulty in finishing such an ornamental border,

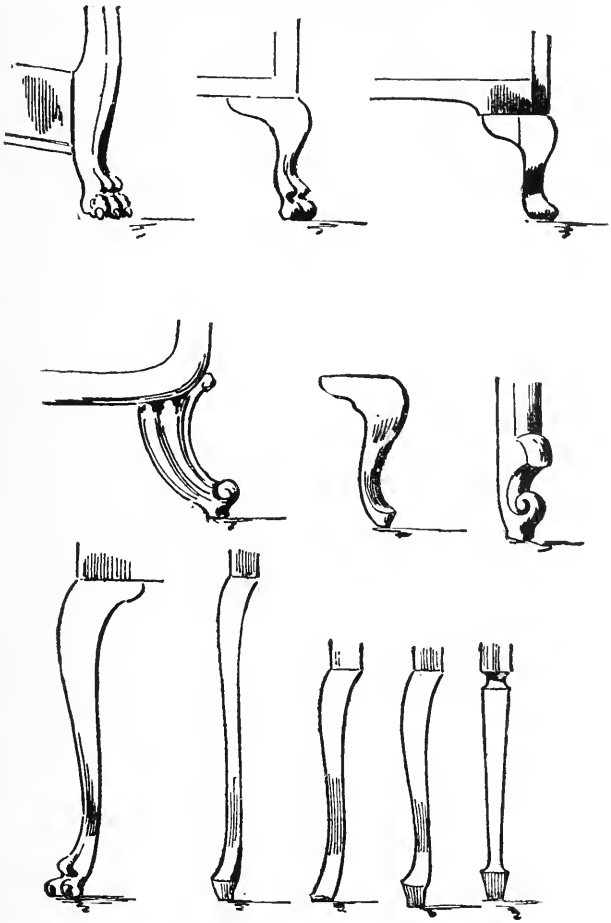
but in keeping it free from dust. Fig. 89 takes its place and Fig. 91 is to be desired rather than Fig. 90. The avoidance of cutting away too greatly the grain strength, even though it is a glued overlay, is more prominent today, while the fretted pediment shown in Fig. 92 gives way to a more rational and fortified treatment, as indicated in Fig. 93.



Ornament in Furniture.

So with the foot of the stand or case, we have all suffered annoyance from the breaking-off of projections seen in connection with Fig. 94 and 95, while we welcome Fig. 96 and 97. Such

a foot as that shown in Fig. 96 and 97 should be reinforced by a glued corner block from behind. The direct corner post, however, is stronger, terminating in a semblance to a foot, hoof or



Ornament in Furniture.

more frequently an animal's paw, showing the claws clearly defined. Great deviation is shown in such supports. The writing desk, with its carcase well raised to the floor, is usually made with a front post which will permit of being formed with a prom-

inent knee immediately under the case, which in its downward shape diminishes to a slight ankle about 3 in. from the floor, where in the same size of stock as shown in the knee a claw foot is formed. This, if detailed by carving, consists of 3 or 5 toes or a fanciful duck's web foot clasping a ball. When a particularly massive effect is desired an extra stock is glued to the two outer sides of the post or leg to permit of greater prominence to the knee and claws. Various shapes of legs and feet are herewith shown, which will assist in selecting various supports to chairs, couches or cases.

It is hoped that within this small treatise on the extensive subject of "Ornament in Furniture" the main guiding thought has been adhered to—of watchfulness against senseless outlines. This thought should also enter into selection of any hardware or metal trimmings required, that they be of a suitably plain character in solid metal and well finished.

CHAPTER III

CERTAIN FURNITURE FORMS

VALUE OF SPARE TIME AND OBSERVATION

WHETHER a carpenter with skill in using wood-working tools, or the man, who, following another occupation, knows also the joy of working in wood, he is ever eager, with creative desire, to fashion certain furniture for his own use.

A careful examination of many patterns seen in the stores, or coming under his particular attention, would assure him of his ability to produce work on similar lines, provided a few suggestions or guiding points be given.

Assisted by accompanying illustrations which aim for simplicity of construction, and unbroken character of outline, is the purpose of bringing these articles together for a ready reference, and it is hoped a fountain of inspiration and suggestion.

A commendable feature of the better patterns of present-day furniture is the emulating of the sturdy character and simplicity of treatment of the old cabinet makers, and be it said here that our early American craftsmen created much that we of the present time are forced to admire.

It is true we have misapplied our efforts through the medium of modern tools, but would not the model maker of a furniture plant of today be staggered should an apparition of his brother craftsman of 1700 appear and rudely snatch away the power-driven rip-saw, jointer, band-saw and back-knife lathe, and insist upon the modern man using the tools employed in those days of yore! Should such be true and our twentieth century man begin his task under the old way, in the light of a great joke, is it unreasonable to suppose that long before he converted

his log into boards the thought would come before him, as he curiously handled and inspected the heavy jack plane, that his would be no easy task in dressing his stock; but he sets to with a will to experience what those "old fellows" must have had to do before they could mark a line. While he catches his breath and wipes the perspiration from his face, a bright, rational idea comes to his mind and he says, "When I get this stock smoothed up I'll go over my drawings and leave out some of my 'gingerbread' work and make my detail subservient to the construction, an object for which it is intended," and then it dawns upon him that this must have been the idea of the mechanic 200 years back, when he produced the furniture we admire so much today. He did it in a direct way and confined his energies to beautifying only such places and parts as needed it the most.

The literature and history of the times have been very much directed to old Colonial landmarks and customs. This tendency has consequently created good prices for the few patterns of furniture that come by chance into the hands of the dealers and has created a demand for copies. A number of factories are therefore kept busy manufacturing with great faithfulness reproductions of "old antiques."

The mechanic, not necessarily a cabinet maker, can do much in furnishing part of his home with portable or built-in furniture if he will but observe the chaste, simple lines of the earlier workman. During the era of flashy, overestimated furniture, some years since, there prevailed an idea among craftsmen other than furniture workers that it was a special art and privilege to perpetuate those styles from which we have since turned. So it was, and we are glad of it, for such frailties soon went to pieces and had their short day.

It will be noticed by the aid of the few patterns shown that very little intricacy is attached in laying out necessary draft from which to work. For the height of seats or tables refer to any standard piece of furniture about the house, allowance being made, of course, where a seat is to be upholstered, to build the frame less the thickness of proposed upholstered cushion. The same applies as to casters on chairs, couches or tables.

Illustration, Fig. 98, showing the home writing desk is made on such simple lines that little explanation is needed. The carpenter, filling his much-prized tool chest with easy-moving drawers, is perfectly able to lay out the few drawers and compartments that are within a parlor writing stand. The slant front opens out and forms the writing table, being hung from inside of ends by a chain or metal device of the elbow order.

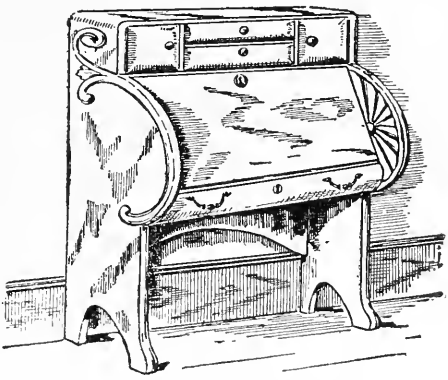


FIG. 98.—Home Writing Desk.

The hall settle or portable window seat, as shown in Fig. 99, is almost a necessity unless one is fortunately provided with

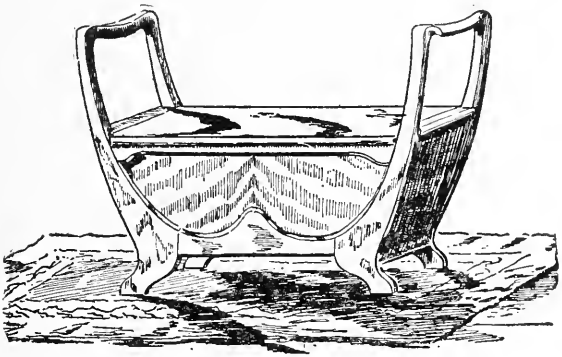


FIG. 99.—Hall Settee or Portable Window Seat.

plenty of closet room, for in this article, by raising the seat, the box portion underneath makes a very convenient place to keep overshoes, a small riding saddle, or other articles wanted in a hurry and desirable to have readily accessible. In this piece it would be better to use Norway pine, or better still,

Southern pine with pronounced red sap, or it would be more satisfactory, if possible, made in quartered oak, birch or mahogany, the three kinds of standard furniture woods.

There has been much experimenting of late in using other woods than the three mentioned, but any wood with a pretty grain or figure could be used which would be free from liability of indenting or checking, to which pine or bass is subject.

The prevailing taste is for the finishing material to be quite dark in imitation of old-time stained and even weather-beaten furniture, and a return to the wax-finish or oil-rubbed surfaces is very much to be welcomed.

The finishing for such pieces illustrated, after staining to the proper shade you desire, would be to give them three coats of orange shellac, the first two coats being rubbed down by No. oo sandpaper and the third coat of shellac rubbed down in pumice-stone powder and oil; this will produce a dull gloss peculiar to old-time furniture and one that will not show when suddenly struck or indented.

Much can be said upon this subject of creative art, which is awakening so much keen interest in the field of cabinet or case work abroad. Starting originally among a small band of artisans in the European centers the desire grew to give individual expression to their productions, and to check the disposition of concentration into large factories of various lines of handicraft, thus losing the identity of the workman and at the same time training the younger workmen to know only one small operation incident to the line of manufacture.

The results of these workers along individual lines have found expression in the *Art Nouveau*, or modern art. While it may not be at present used extensively by American manufacturers employing machinery for all operations, the spirit of the style is already giving a healthful tone to our designs, and checking a tiresome repetition of conventional styles and a sameness of treatment.

It is hoped that with what will be shown an interest may be awakened among many who feel their ability as constructionists and their inability as draftsmen to the point of drawing

ornamental detail, that it is just as well to leave out the ornamental detail and produce their frames with a directness of construction and nicety of finish, with the introduction of low arched lines springing from posts to rails and the joints flushed over. When the work is carried to completion in this way the worker begins to feel he is dealing with a solid piece beautifully outlined, and not a collection of parts inharmoniously related.

Attention being called to the prevailing class of furniture with the purpose of drawing the interest of the craftsman to objects of household use which he may construct with very little special experience in the higher branches of joinery, to the end of gratifying his natural desire to be occupied during much enforced idleness on kindred work for his own home, furnishing and executing many orders which are sure to come from a display of an article of household comfort neatly joined and properly finished.

With no desire to "teach an old dog new tricks," the subject will be taken up with the idea that the reader is a skilled wood worker, exchanging notes with the designer, and that the work under discussion will be projected with the hearty enthusiasm of the revived "Arts and Crafts" movement, the aim of which is individualism and credit to the workman.

Unfortunately, man's work of today, in many vocations, is by concentration of like interests specialized, and his personal touch confined to doing over and over again one small part of the whole. This suppression of real active enthusiasm in one's trade often is cause for a workman sinking into mediocrity.

Advantages of Observation

Today it is not enough for a man to consume at his work a specified number of hours, or to conform to the regulations of the union, but more to the self-satisfaction that he has used his eyes to good advantage in observing the methods and work produced by a better workman than himself. The close inspection, if possible, when opportunity permits, of some building recognized to be architecturally correct, the relation with which the inside fitting bears to the exterior treatment, and then to the more minute inspection of the joinery, and from this the eye

naturally seeks the furnishing of the room; possibly the body is very ready to seek comfort in the substantial chair or built in corner seat, and then the eye notes that there is a master builder's conception and a connection of thought from foundation walls to the portable furniture of each room. From this daily practice of observing we appreciate more that furniture is closely related and is one of the branches of architecture, the construction and treatment of which should no longer be debased and made trifling by unnecessary and insecure applied ornament, or extravagant, much-cut-into outlines, which time, weather and experience have taught architects to avoid in their work of recent years. This statement has no reference to churches and public buildings of the old world, completed after many years and beautified by sculpture and carving in enduring materials, but refers more to our American architecture of some 30 years ago, a type which doubtless many readers have in mind, "The American Villa" style, all in wood. It looms up now as an example of the band sawyer's widest range of fancy, assisted by the wood turner, who really reached the "highest pinnacle" with his work; often he had one each on the seven gables round about. Time, as with the old woman, has made sad ravages with this style of head gear; each storm blows off a little spire or tears out a baluster. Coincident with this style were the same frailties embodied in furniture, much glued and tacked-on work, turnings halved and glued on, veneer patches crested top lines representing much misapplied work, and more to free from dust. Even the upholstery had that tacked on, insecure look. Every housewife is gladly getting rid of this by replacing it with the "Modern Art" furniture. We don't tell her this, but the "Modern Art" represents a revival of the very best that is old and, strange to say, of early American conception, plain, straight to the point, construction. Having thus brought the attention to a study of good furniture, it will be appreciated that the class of joinery embodied therein is not so much out of the province of the careful carpenter.

In occupying our time on work meant for home use we generally embody individualism and honesty of pupose to a minute

detail. This idea should ever be present in a restrictive sense when it comes to duplicating your piece on an order received, or multiplying it for a small local trade. It would not be possible, however, to allow you a suitable profit on your work should you go to the great care of picking out just the "happy play" of grain or quarter which is embodied in your sample; this may have been the result of laying aside for months back certain pieces which would finally match up well for particular work. Care today is not as discriminating in cabinet work as to the nicety of adjusting stock in framing, that there be a continuity of grain or quarter marks, as in some fine old samples. When laying out stock a little forethought exercised will add greatly to the final finished appearance—as, for instance, to maintain balance in the figure or markings of the wood, to cause a right and left display; this is often easily accomplished by inverting a leg or a panel, thus allowing the surface figure to "fan" out, or arch in, as the case may be, with the other half. Nothing looks so out of balance when using quartered oak in squares as to thoughtlessly frame one side plain face out and the other side showing the quarter. When using plain oak throughout, or other woods, with a large figure, marked character and added value is shown in the work. Oftentimes a combination of woods is resorted to in making up an article of furniture which materially reduces the cost, elm, ash or chestnut frequently being worked in where it combines best with the more expensive wood. Very little so-called mahogany furniture sold today is made up entirely in that wood, birch being largely used and sufficient mahogany being used on front parts to establish some claim to the title. As a matter of strength, birch is much to be preferred to cheap mahogany, both requiring the same imitation or darkening to the standard dark mahogany tone. The selection of wood should be made with judgment and not without some sentiment.

Dignified stability and the immediate suggestion of permanence centers about the living room, oak, even chestnut and ash, are always identified, and considered typical of this thought. While for the reception hall or the bedrooms, they call to mind

the finer woods, as mahogany, birch, gumwood and other close textured lumber, fitting in aptly with dainty furnishings and trimmings.

Color in Furniture

The staining of wood in furniture is largely in practice today, the colors taking in quite a range of tones, most of which are imitative of natural conditions, such as "forest green," a warm green of the woods, and "weathered oak." The last named is a pleasing tone of a gray brown, derived from very old furniture which had been subjected to more open-air changes than our glued-up furniture would stand today; this in consequence is more appropriately applied to staunch heavy or general utility pieces. Flemish oak color, a very dark warm brown, is also a harmonious tone for furniture of a sturdy class. Cathedral oak, fumed, and Castilian brown are other recent tones. As all these shades are an attempted representation of what time and weather conditions of several hundred years have created on ancient furniture, it is but consistent to adhere to the oil-rubbed or wax-like finish; this is advised on all special made pieces and will be dealt with more in detail, as this subject is touched upon now for the purpose of forming an idea of what woods may be used in furniture. While it is essential to avoid using various woods with known bad features, such as shrinking, swelling and twisting, or soft and easily indented, yet a discriminate use of woods other than oak, birch and mahogany, give very artistic results; the main point is to know that it is perfectly air or kiln-dried before using.

The writer has made use of white-pine panels saved from ordinary packing boxes. These work in admirably in portions of of cabinet work where it is not likely to be indented, and are well worth saving, as they are generally of the right thickness and simply need redressing. This, of course, is for work stained for walnut or mahogany.

Having considered furniture in a general way, it is assumed that a certain article is under discussion. The trade knowledge of the carpenter will not be questioned as to the handling of tools or preparing of the stock, and the work will proceed with the

necessary guidance of a rough drawing. This does not imply that one should have a knowledge of designing or drawing, however desirable the cultivation of this ability is to every craftsman. It is often with settled resignation that many determine they are unable to express themselves by a drawing, when by a little trial effort interest begets enthusiasm and the rest is easy. In the absence of the regular Manila drawing paper, any large sheet free from creases or wrinkles will answer temporarily; after which, should your interest excite you to further trials, the best of materials should then be secured. How many expend $10, $15 or $20 on the "most complete set" of instruments without the slightest idea of the use of two-thirds of them. Don't do this now—use a good, medium, black pencil; your 2-foot rule; a pair of dividers with well sharpened points and a pencil attachment; a soft eraser for rubbing out trial lines; a triangle and a T-square. This constitutes the essential outfit, and the main feature is to secure your paper with common tacks or thumb tacks to a smooth board surface or table, the edges of which are perfectly square. Drawings, as a rule, are made to show one-half elevation, with the end or side view and section projected to the right of this on the same base line. (See Figs. 67 and 68, drawing for hall-seat.) This shortens the work of the front elevation, and the measurements are doubled when laying out the stock. It will be seen that when drawing the side elevation on the same plane it is made very simple, for by the aid of the T-square many of the measurements are extended and ruled off. Now many will say, we are able to do and have done all this; it is simply mechanical; but what gets me is how to draw freehand, or the varying line portions of a drawing.

This no doubt confronts many as a nightmare and is intensified by the fact, generally, that the beginner starts out with the idea of drawing the line gracefully and with clear decision at once. He usually fails, or probably the line or lines do not occupy the surface intended. It would take much practicing or months of time to draw a finished line needing no correction; that would be skill. You can, however, produce your curved lines and smaller detail by boldly and with a light freehand touch swinging in the

lines in a given territory, and if it falls wide off the mark, or doesn't please you, erase and try again. You may have to do this several times, when you will say, "This is just what I want!" Then is the time when you can preserve the effort by carefully going over this, making the line heavy and clear. Rely upon yourself in this way rather than create the line by the aid of the compasses, which require aimless staking out of points to effect several arcs, which must necessarily be joined by hand, and the result is often a very mechanically stiff curve. The operator has the satisfaction when working from his own drawing or patterns of knowing that he can give more grace or freedom to certain lines when sawing the stock or dressing the edges with the shave, for the beauty of long sweeps can be much enhanced by the full-arm movement incident to cleaning up the stock.

Previous reference has been made to the main purpose in directing the attention of the craftsman to a class of work with which, while he may not be altogether uninformed, yet the subject heretofore has not been presented to him in a prepared condition to enable him to exercise his skill in a higher branch of joinery.

The journal of today sent broadcast, with its articles and departments relating to self help, makes it possible, if not indeed certain, for every intelligent person to acquire knowledge, or at least to add to his knowledge along certain lines. The mother or the daughter in isolated districts has acquired information and skill in millinery or dressmaking, studying explicit directions and illustrations which are often self-explanatory in their clearness, while in the column for domestic science greater deftness is gained, together with the important knowledge of chemical changes incident to good cooking. From these sources a pronounced broadening of the individual is evidenced, and today the "mossback" is the one who pores over the only printed matter that comes to him—the local "weekly."

Value of the Correspondence Department

The privileges allowed in the space devoted to "correspondence" in a trade journal should not be undervalued either by

the young or the old subscriber. Its advantages are indeed great, and many are pulled out of dense ignorance or turned from a well-worn rut by a careful and thoughtful study of its columns.

We will suppose the carpenter or craftsman has many "off days" now and then, due to weather or other conditions, and unless he is a "captain of industry" the question of how to employ his time to profit is uppermost in his mind. The exercise and higher development of one's skill at these times if not directly productive certainly will be later, in his being rated a first-class man. To this end he should have a better home work shop, or room, than any other tradesman. First of all the place should be swept up and always kept that way after work, then a good substantial work bench placed to the best advantage for the light, and all that appertains to his work should be put in convenient places or shelves. Brackets should be made for certain tools, then a hanging shelf for lumber, so that it can be kept clean and flat. All these handy arrangements and ideas for carrying on the work, whenever spare time is given for it, will occur to the man who goes at the matter with the purpose of having an inviting place in which to work. After all is accomplished in the way of convenience and order, keep it so. Everything being in readiness you will, when the opportunity offers, get to work like one who has an appetizing meal before him.

Advantages to Country Carpenters

In turning the craftsman's attention, and particularly the carpenter's attention, from large to small construction, such as portable objects about the house, what benefit may come from these chapters will be more to the carpenter in isolated districts than to the journeyman in the city, who is kept more actively occupied. His work then will not be so much brought into contact in a competitive way with the cabinet maker, who seldom locates in a small village or town. This fact should be a greater reason and incentive to the cultivation of his skill in the higher branches of joinery; for even in country towns there are the "upper class" people, or those of means, who generally are

easily prevailed upon to secure some interior fitting, or article of furniture, particularly should it be made for a special purpose, which raises it above the factory commodity.

With the essential requirements provided for, the individual needs are then generally gratified and the housewife with great pride in her plants or china will be equally interested in acquiring a plant stand or plate rack. These now are quite commonly sold in towns or cities, but often are poorly made or finished. Here, then, is the mission of the carpenter or craftsman to work up a local side business.

Primitive Structural Idea

The form which would suggest itself to a workman, should he be called upon to produce an article, is the unadorned and useful qualities in a piece of furniture; this would be a natural expression of his ideas of construction, free from imitation. Much of the furniture which is sold today is strong and durable, but some of such a severe type that it is highly probable the demand for it will be short-lived. Our homes, surroundings and tastes are ever changing; the desire is for change of outline; the primitive structural furniture looks very much out of place unless a room was fitted up entirely in that style, or in the later interpretation of it, the "Arts and Crafts" school.

The structural idea should ever be in mind in creating a piece of furniture, yet in our day of hard business drive the few hours or moments of home rest should be in rooms furnished by furniture not of the restless over-elaborated French style, nor by the rigid square-edge primitive style; rather design our furniture from this primitive type, as a dressmaker molds her cloth over nature's form, knowing then we are started right.

Take, then, these old structural forms and in our mind's eye pick up the draw knife and round off well the edges and corners, so that if we ever did fall against it we would not bruise the flesh or or have our teeth knocked out. Possibly in some places, taking care to leave ample strength for the purpose, we may cut out an arched line, which would be a little more in keeping with our rounded-out lives.

Suggestion and Incentive

Have the main line in furniture clearly define its purpose. Probably the main thought embodied is in a plain sweeping line which meets an untimely fate in some meaningless jumble of scallops and coves. Rather have the design motif creep up to and join in with this main line in the shape of surface carving, or applied carving, properly shaded off and brought into definite relation with the prevailing outline.

From observing good, sensibly designed furniture the craftsman is aided and inspired to evolve from a primitive structural form something which immediately has individual character, and it may solely spring from a pure curved outline of his own shaping, one not previously conceived, but wrought by strength and tool to the material. The main construction is determined by the purpose for which it is intended by his effective outline worked out of the material to lighten the effect of the whole, and thus he becomes designer of his work.

We have no doubt that many intelligent carpenters refuse special jobs, or do not appreciate the fact that a great increase of revenue could be acquired, simply because they always did the work but never attempted to conceive it. We know of one builder who as a carpenter made a name as a builder by planning at night neat drawings of porch and bay additions. These he showed to people whom he knew had denied themselves those attractive features when involved in their home building. A man with funds barely sufficient to surround and shelter himself with a home will leave out the porch in his calculations, but both himself, and particularly his wife, are bound to have it added later on. This same businesslike spirit can be cultivated relative to furniture. This desire to make our interiors more attractive is just as uppermost with many as it is to follow styles in dressing. Accompanying this series illustrations are offered with the thought in view that the pieces can be carried out as shown, or modifications made on the same constructional forms. The first subject will be that of a fuel chest.

The subject here illustrated exemplifies the idea which should be uppermost, as expressed by the great master of arts and

crafts, William Morris: "Have nothing in your house that you do not know to be useful or believe to be ornamental."

Certainly a frowning black coal hod standing in the corner of one's sitting room jars on the sense of propriety. It looks bad enough behind the kitchen stove, and is only tolerated because it is a useful article—an instrument of torture from which the man of the house cannot very well flee. The coal chest is an "accessory to the fact," yet in having one we find that in itself it is pleasing to look at and also serves a double purpose of a comfortable seat under the window sill or where one has a mind to place it. We have then to consider an article of furniture which admittedly is useful and in harmony with our better desire to banish the unsightly useful necessity. It will be found not only desirable for the stove-heated room, but for the gentleman who, in his steam-heated residence, likes to run a little fire department of his own in the library grate just for "auld acquaintance" sake and watch again the glow in the chimney breast.

As here shown it will be very readily constructed. It is seat high—that is, 18 inches from the floor to top, without cushion.

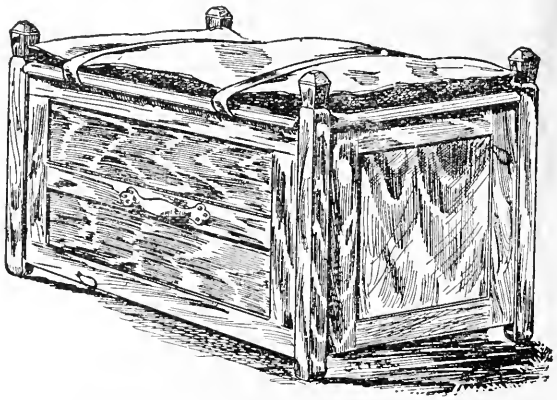


FIG. 100.—Fuel Chest and Window Seat.

The width at the ends, outside, is 18 inches, the front 22 inches. The construction is held between four posts, 2 inches square,

21¼ inches long, making the end frames 14 inches wide by 15¾ inches, the back frame 15¾ x 18 inches and the front frame 15 x 18 inches.

The frames for the ends and back are made of ⅞ x 2-inch rail and stile, with a ⅜-inch plain panel set in a groove 3/16 inch

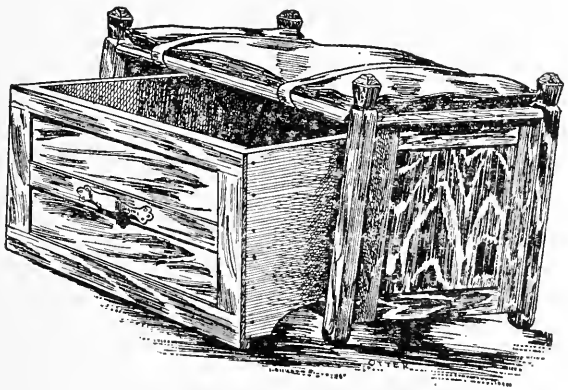


FIG. 101.—Showing the Chest Open.

from front face. Allowance should, of course, be made in getting out the frame stock to permit of dressing the edges to size given after the frame and panel are glued up and handled as one part. The back and end frames are secured to posts 1¼ inches from floor line by means of 7/16 x 2-inch dowel pins, three pins to a joint. Set the frame ¼ inch back from face of posts. Care should be taken in edging evenly the post and frame before scribing and properly locating the boring points on each part. In this way there will be no failure in having projecting dowels drive into their corresponding holes when setting up for trial and gluing. Long bar clamps should be used in drawing up tightly after gluing.

The plan, Fig. 102, shows open bottom framing, which is to be secured even with lower edge of outside framing. This consists of some soft wood cross rails, as shown, 2 inches wide, and the two front to back stiles are to be of 1 x 2-inch hard maple or other hard wood not easily worn by the rolling of the two casters

seen on rear corners of fuel box end, Fig. 103. Secure this framing, after it is glued and dressed to fit, by means of three 2½-inch screws, driven on the inside edge of the two maple

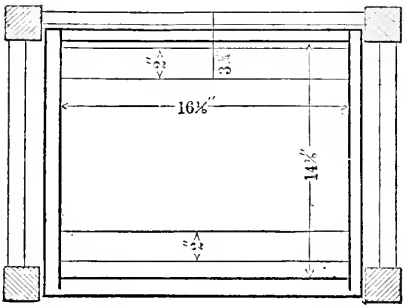


FIG. 102.—Plan of Chest and Fuel Box in Position.

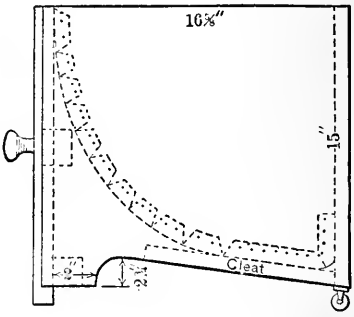


FIG. 103.—End View of Box, Showing Front Frame and Metal Bottom.

strips, glue having previously been applied to the parts. Shoulder the projecting ends of the maple pieces, front and back, to fit corner of posts and secure by screws to posts. The front ends are to be trimmed afterward to stop the front frame, which is part of the box, as shown in Fig. 103, from moving back more than ¼ inch from face of front posts. The outline of end of the box proper, with section of front-panel framing, is shown in Fig. 103. In Fig. 102 the plan and measurement of box are shown directly over bottom framing of chest.

With the exception of the front of this box is constructed from ⅞-inch pine or whitewood and is put together with nails in the back. The front frame is similar in construction to the other frames, with the exception of intervening rail, to which the handle is applied. This frame is rabbeted on the back face of the stiles to within ⅜ inch of the front to accommodate the front ends of side pieces and through which screws are driven diagonally into framing, the parts being glued before so doing. To further strengthen this part of the construction, which is subjected to a pulling strain, apply with glue and nails triangle corner blocks on back in line with the middle rail and at lower corners, as indicated in Fig. 103.

We have now a box frame without a bottom. Where the cleat is marked in Fig. 103 glue and nail a piece ¾ x 1 x 9½ inches. From the top rail of front frame and in a curved manner, as shown by dotted line, neatly bend and secure with tinner's ⅝-inch nails a sheet of galvanized iron or sheet steel, about No. 20 gauge. The size of the sheet is 18 x 25 inches. Previously prepare the sheet for proper bending by cutting out notches to permit of bending to the curve and where it is bent up against the back of the box. The allowance is for 1 inch to turn up on each side, which do by hammering on a square edge, punching nail holes on this turned-up margin ready to drive the nails into the wood. By making careful calculation in bending, the sheet should go in the box opening with ease, and when secured to top rail of front frame it may be made to readily conform by pressure with the curve and lay against the angle made by cleat at bottom. Bend an easy corner up onto back of box, where finally secure by row of nails along the margin. By the use of the metal bottom the usual annoyance of digging coal from at least two corners will be overcome and the curve causes the coal to center to a position most convenient when the box is drawn out, as shown in Fig. 101. Upon the rear corners of the box, and in line to "track" along the maple framing underneath, secure firmly a caster on each corner. In this instance it will require casters which will not raise the box above ¾ inch. A single-wheel caster, such as those used on a dressing stand or trunk, will do nicely.

The top of the chest, which if used without the cushion should be of good figured 1-inch stock, is jointed to a finished panel 18 x 22 inches, shouldered at the corners to fit between the posts and the edges molded to a quarter mold and even with outer face of posts.

The Cushion

The illustration shows an unconventional way of providing a cushion for this primitive structural form. It is one which may be made by the handy craftsman or handed over to a carriage trimmer should there be no upholsterer available. It consists of a covering made of the prevailing Spanish brown

leather, a soft material harmonizing well with oak whether it be finished "natural," "golden" or in the "weathered" tone. The cushion for this would be very much like a flat stuffed pillow, the filling made of hair or moss. The leather cover is made of better grade leather on top, with a lower grade leather, or "pantasote," in color to match, for the under part. The two pieces are cut out and sewed in length to fold and form a mail-bag-like pouch, with ample flaps over the opening. Sew edges of material, when folded to size of seat, with the good sides face to face, then when finished turn inside out. Insert the cushion and lay the pouch on seat, with flap side against the seat and at back. With two soft leather straps of same color tack under back edge of seat and draw them down across the bag, as shown, and secure on the front edge.

A lower cost covering could be made altogether of imitation leather or "pantasote," corduroy or velour in tans or brown. As an article of furniture in close proximity to heat, the wax, or dull gloss, is a preferable finish.

The Handle

There are a number of plain cast-bronze or brass handles kept by hardware dealers answering this purpose. It should, however, be strong and drilled to secure it through the middle rail with a washer and rivet or by a round head bolt with nut and washer from back. A hand hole in a corresponding position on back of box should be made, which will permit of the box being taken from the room for more coal.

Another Suggestion

In Fig. 104 is offered another idea for a coal or wood box of an ornamental form and yet a part of the room furnishing. It is given for the reader to lay out the section of the fuel containing space as it best suits his purpose, the form of this four-sided box being somewhat dependent on the idea of ease in using the shovel and also in forming in a pleasing manner the outline of the end pieces. The carving of a claw foot on the two base pieces would be proper and pleasing. A generous opening in

the sides over the slanting top suggests its use as a handle. A strip of 1-16-inch thick polished brass, almost covering the edge of side panels from under front point and down to support in back, will add much to the appearance. The stock for this piece should be not less than 1 inch, better 1⅛ inches thick. The proper dimensions of the box would be contained within 19 inches square.

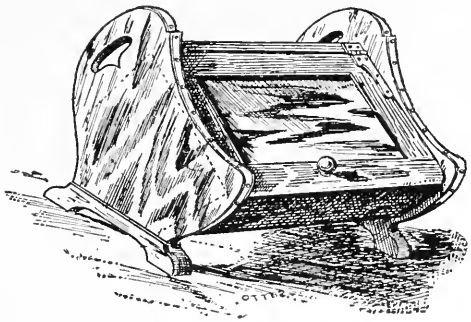


FIG. 104

A Screen

In these days of "high protection" the screen may seem unnecessary, but there is just as much need of guarding from drafts, or of screening a portion of the room which unavoidably is untidy, as in early times, when by the very hugeness of the rooms a portable screen afforded protection to the occupant of a chair drawn to the fire. As our homes are today more evenly heated the screen still remains an article of great service for other purposes than to screen drafts. Artistically it breaks the square character of a room by the ease with which it may be adjusted as a background. From the standpoint of general utility in the modestly furnished home, it will be found indispensable in emergency when a room must be converted temporarily into a sleeping room, or in case of sickness, the privacy or protection from a high screen will be readily appreciated.

Fashion in future dictates the screen, and its importance is such that it is keeping a few small factories turning them out to supply the demand. The screen which you will make will possibly be more substantial than those made to sell in dozen lots. It will also have individuality, and your patron will be the more pleased in this fact as it represents her taste also.

No detailed description is necessary to the carpenter in constructing the screen here shown, as it represents simply the care-

ful joinery incident to making a door frame and the fitting of panels and rails.

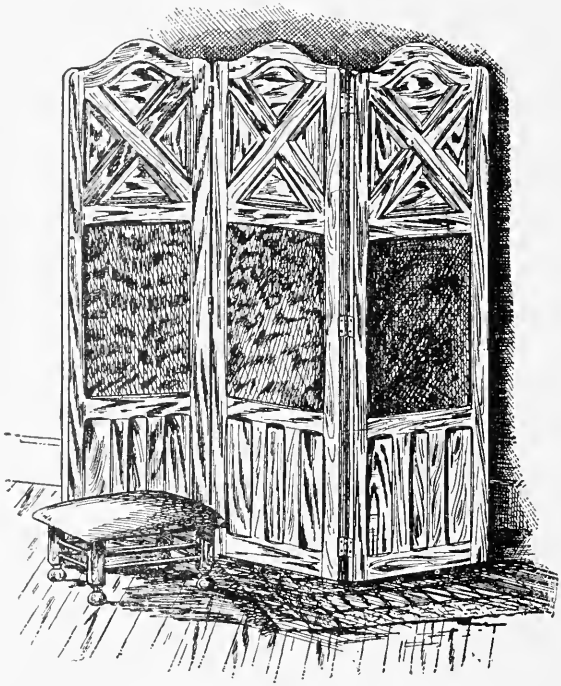


FIG. 105—General View of Folding Screen.

The subdividing of the interior space, as shown in the illustration, by the paneling at the top and bottom, is offered, suggesting a medieval treatment peculiar to interior finish at the time when screens were much used. There is no arbitrary size, the usual proportions for a serviceable screen being 22 inches to 24 x 70 inches outside of each frame; the frame stock is of 1 inch to 1⅛ x 2½ inches. To guard against too much weight the panel and structural features should occupy little space at the top. A very pleasing treatment would be to have such filling at the bottom only.

As to the main surface this is a matter of taste or expense. The higher-priced screens are generally filled with leather of

an antique finish, but a rich effect is oftentimes produced with low-cost materials; and the work incident to it entirely within the range of the intelligent worker. A mortised and tenoned frame of pine, not glued or pinned, and made to fit loosely in ½-inch rabbet ⅜ inch off the face of framing, is required, over which the material selected is stretched, tacking it with 4-ounce tacks upon edge of stretcher, the same way an oil painting on canvas is stretched; small wooden keys or wedges are then driven in the corners along the tenoned strip, giving the final stretch to the surface.

A screen made by the writer has the stetchers covered with a heavy grade of linen dress stiffening, which was treated to three coats of ordinary paint, the last coat being an olive green. Two inches away from and conforming to the inner edge of the frame a ¼-inch striping of gold paint was lined over this painted surface, giving what proved to be a simple, inexpensive treatment, which in combination with the mahogany frames produced a pleasing and substantial appearance.

A good grade of heavy burlap so treated is very satisfactory. While the painted surface is a little "tacky," lightly fleck some gold powder with a cotton wad in a careless way about the surface, and this on a warm, brown surface will produce an antique bronze peculiar to old leather or metal. Detail of treatment is generally confined to one side of the screen, and the reverse finished in a more simple way. Raised molded panels inserted in chamfered framing may be shown as the front, with flat surface and square edges on the reverse. The painted paneling should be covered by a one-colored piece of "pantasote," denim or other lower but good-grade material, this to be tacked and stretched along a ⅜-inch margin on the outer frames with small tacks. As a covering to the tacked edge a gimp band of some color is secured by evenly-spaced fancy head upholsterers' tacks.

Wrought brass, double-acting screen hinges must of course be used, three to the fold, and nothing of a projecting character on the framing should prevent them coming together, as a foot rule would when folded either way. These hinges run in size from ⅞ to 1½ inches, in eighths.

CHAPTER IV

TABLES AND STANDS

STRENGTH in the wheel is radiated from the hub, so the light from the center-table lamp throwing out its cheer over the family circle is remembered in after years as having much to do in strengthening family ties. It is then an article of furniture which assuredly the carpenter and artisan should construct, embodying in its assembling his especial fancy and requirements. The table of today is not clothed with a long overhanging skirt or cover, though this may be justified should the table be a temporary makeshift. Beauty of wood and good joinery should never be hidden by an all-over cover, and while the craftsman's wife or sweetheart may be an excellent needlewoman, anything of an applied nature should be subservient—used as a narrow overhanging band, scarf, or centerpiece—to show in contrast.

Importance, then, should be particularly directed to selecting the best obtainable stock for the top. When a table is contemplated it is sometimes possible to secure a quartered oak which has, although rarely, a curly figure in combination, and the table top is just the place to do honor to this whim of nature. The edges of all table tops should be molded with an easy round shape on the upper edge, as an accidental indentation is less noticeable and it is more congenial to the touch.

In the case of small side tables, where the top would not be subject to heat or accidental spilling of liquids, as would be the case with a dining table, veneers of marked figure or crotch may be used with great success, permitting of a lower cost of material to be used for the solid part. When veneers are thus used the mold selected must be of a profile which cuts a decided edge through the veneered surface—that is to say, a quarter mold, or

one rounded still lower, generally presents a destructive edge to the veneer and does not show up well in the finish. It is expected that by the guidance of the measured drawings here given the workman will receive inspiration to lay out his working details, and if fancy dictates, modify as he thinks best. His requirements may be for a larger or smaller table, in which case a height of 27 to 30 inches is adhered to, and top measurements are generally increased indefinitely by 2-inch additions.

Fig. 105 offers a suggestion for the display of grain and figure in the top, on the rails underneath and on the turned shafts. If made of solid wood the opportunity of well rounding all edges is particularly offered to enhance the finish of this pattern. The top is apparently heavy, this being produced by false under

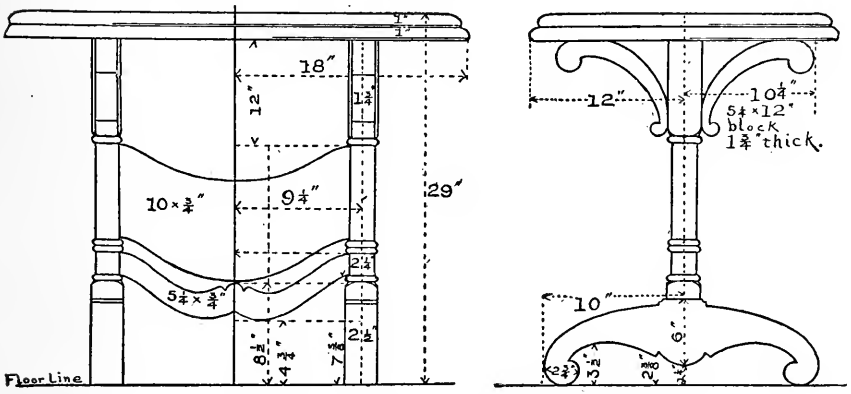


FIG. 105.—Front and End Views of Table.

stock projected and molded in advance of the top, as shown. This false framing is carefully selected as to figure, fitted, glued and afterward molded, when it is then glued and screwed to top. The steady and rapid advance in lumber cost necessitates a careful study of the uniting of thin, or, what was in times past, refuse cuttings, into glued-up dimensions, and where, by a definite finish of molding, as in the case of the reinforced table top, considerable is saved. The old notion that great strength was to be found only in the solid piece is dispelled by modern practice in wood economy.

The illustration, Fig. 105, is sufficiently self explanatory, except we might suggest that the cross rails be cut long enough to have deep-set tenons, and also the turned posts be provided with a long square tenon as it enters the foot pieces. The bracket supports are secured to posts and under top by screws sunk and blind plugged.

Our next illustration, Fig. 106, is of a style suitable in a small or large size, and while shown with only the cross strainers, may have substituted a lower shelf for books or magazines. The rugged claw foot is in pleasing contrast to the plain portions of the table; the leg however may be left uncarved but shaped in a graceful, symmetrical manner. The size given for

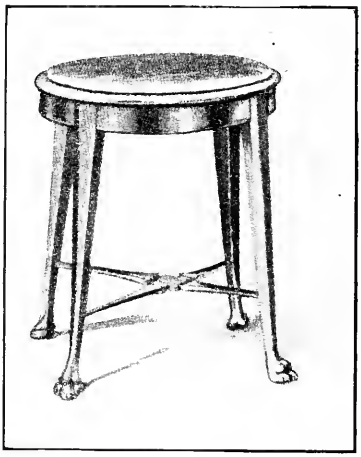


FIG. 106.—View of Round Center Table.

this leg is 2 x 2 5/16 inches. This, however, is sufficiently heavy that the addition of side blocks will not be necessary to produce a gracefully formed ankle and foot. The reinforced framing to the top is also used in this table, this being 2¼ inches wide, and to which are screwed the rails, and into which are secured the legs by dowels.

The height of these tables having been given, the plan in Fig.

107 will facilitate making up a working drawing. In this illustration the top is 23 inches in diameter by 1 inch thick, and the projected under part 24 inches in diameter by 7/8 inch thick. The rails between legs can be made of 2-inch material glued up to admit of securing a width sufficient to produce the quarter ring shown, which is 1½ inches wide. Secure these rails by glue and three countersunk screws to each quarter.

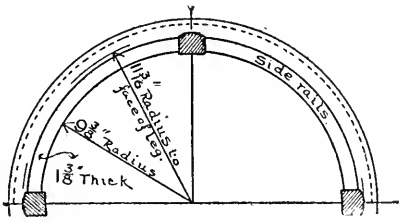


FIG. 107.—Half Plan of Round Table.

In Fig. 108 is shown an easily constructed table of a plain character relieved by the carving on side panels. This carving

FIG. 108.—A Parlor Table.

should have a dull finish, with plain surrounding surfaces polished. Fig. 109 shows what can be done by using properly selected stock patterns of moldings under the top, a pattern that will be somewhat in contour with an easy line given to the leg. This leg is diagonally placed under the corner of the top and is secured from stock 2½ inches thick, reduced to shape and taper as shown. The rounding or stock dressing is accom-

plished by a draw-knife, shave and scraper previously described. Fig. 110 affords the basis of many modifications dependent upon

FIG. 109—Another Style of Center Table.

the constructional features being kept in evidence. This makes a good serviceable family reading or library table, where one can poke away an unfinished book on the open shelf at ends. Such

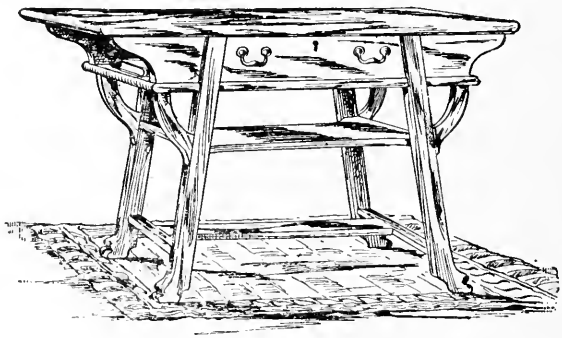


FIG. 110.—Family Reading or Library Table.

a pattern finishes most properly with a dull surface, fumed tone.

Den and Writing Tables

A table for the general living room, library, or we might call it "den" should be serviceable and strong, for here it is that the man, like the pursued animal, seeks retirement and rest at the

close of the day. Bamboo furniture and spider-legged chairs do not appeal to him—even the feminine mind has discarded the flimsy, for the simple modern style is to her liking. Four legs and a board is the first logical thought, and additions other than necessary members used to connect these parts in the construction are useless. By this is meant brackets and other glued-on parts having no relation to the purpose of the table.

An added value may be given the table, however, by inserting a drawer under the top and providing an under board or shelf where naturally in its place a strainer would be a part of the construction for purposes of strength.

The dusting and wiping over of a table along simple lines is more of a pleasure than source of irritation, for if properly finished it is improved by wiping. The suggestions indicated in Figs. 111, 112 and 113 are offered as a basis of the plain serviceable style which can be modified in many ways yet retain a simple character.

Many prefer a round leg or post. This should be of a simple shape, leaving a square top for inserting rails and having the shaft a perfectly plain round, the fullest size of square diminishing on a slight sweep as it comes to the floor. The simplicity of an Ionic column should be ever in mind to restrain one from the

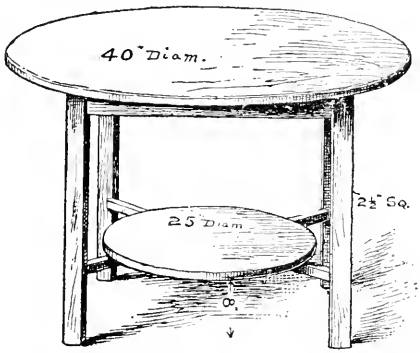


FIG. 111.—Table for Living Room or Den.

tendency to overbeading and hollows, which frequently mean nothing in turned work and are difficult to clean.

The table indicated in Fig. 111 of the illustrations is of the

simplest type of construction, and for a room of little open space it will be found very serviceable, both for a reading and a card

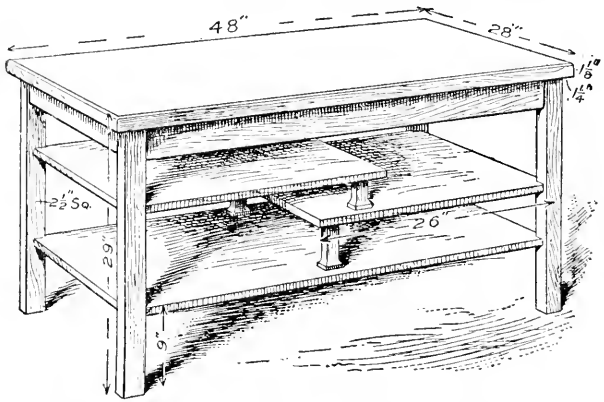


FIG. 112.—Table for a General Reading Room.

table as well. Fig. 112 shows a table designed for a general reading room. The Japanese feature of overhanging shelves gives a generous space for current journals which usually become dog-eared when left lying on the table top.

There are times when in dusting, as in other things, "a lick and a promise" is given between regular days, and a free table

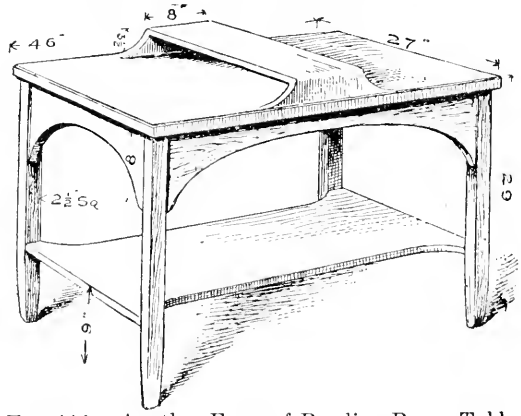


FIG. 113.—Another Form of Reading Room Table.

top is very desirable for an orderly appearance. This thought is suggested in the whim shown in the style, Fig. 113, with the

built-up center shelf for the lamp or electrolier base and magazine pockets on either side which will partly conceal the ruffled condition of paper-covered magazines.

The form of writing table shown in Fig. 114 is becoming popular. It cannot be overfilled by papers and other matter not actua, correspondence. In this respect it is desirable for the living room or reception hall or a small size is very appropriate in a spare guest room. The top always remains as a table top,

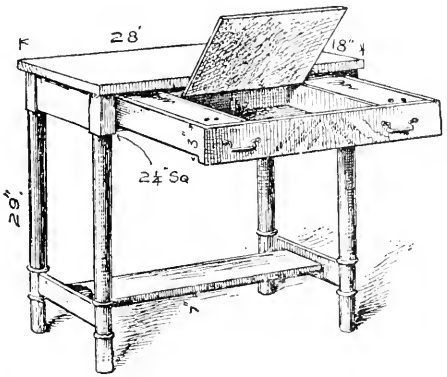


FIG. 114.—Writing Table with Drawer Open.

the writing being confined to the center tablet panel flush with the top of the drawer when drawn out to a set stop. Under this panel is the larger compartment for paper and envelopes, while on either side of the partition are compartments full size or subdivided, as the fancy dictates, into a small space for loose pens, a long till for pen holders and pencils, while at the back end either at the right or left of the center writing tablet a fixed division should be made for a square glass or some appropriate form of ink well.

For neatness of finish, which should be in marked evidence on such a piece of furniture, the tablet and other divisions having been made of ¼-in. paneling, the walls should be fitted with a scant ⅛-in. material of the same or another kind of wood. The width of this paneling should allow for the ¼-in. thickness of top or till covers and form a rabbet for these to set upon. Usu-

ally such a table is made in mahogany and the drawer compartments in that wood also. The oak tables should have mahogany drawer divisions also, as this wood is very desirable for small work and a good after-finish. In this form of writing table the sides of the drawer must be of the full length permitted by the interior of the table frame, but the drawer itself must be made to withdraw only to a certain fixed stop or check provided for the purpose. This is to avoid an overbalance when the drawer is being used as a writing bed. Some tables made are provided with a concealed counterweight, but this is unnecessary if the table frame is of a substantial pattern and the drawer stop is properly located.

The apparent waste space of the rear end of the entire drawer readily suggests a private drawer or compartment secretly ac-

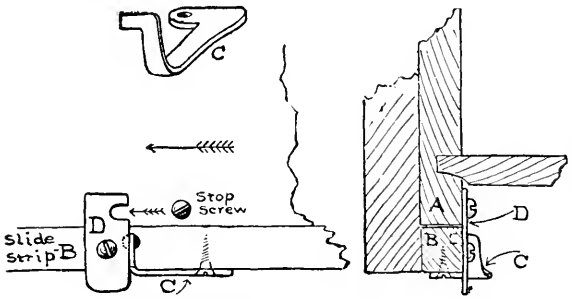


FIG. 115.—Details of Checking Device.

cessible by throwing off the check or stop, which can be controlled by a simple mechanical device of an elbow joint or spring push button variety placed entirely out of view at one or both sides under the drawer and somewhat to the rear. The drawer operates as an ordinary drawer, and the check is never used except when it is desired to use the private compartment.

A checking device which is at present in satisfactory use is illustrated in Fig. 115 of the drawings. Here the plate D is held in checking position by the stop screw properly located as shown. It is thrown forward when it is desired to pull out the entire drawer. This is done by swinging out under the drawer slide

the shaped metal piece D. This when erect with the drawer stop screw pulled against it prevents further withdrawal.

In making such a piece of furniture there is opportunity for personality in the design as well as in ingenious devices which will characterize the article and give it increasing value.

The best of reading in the way of magazines and periodicals will gradually accumulate upon the family center table, and if there be no reserve place set aside for them they become a shifting nuisance to the tidy housewife, and when the good man of the house has an extra desire to wade into some back numbers, while enjoying the warmth and cheer of the home, he may be provoked to learn that his missing numbers formed part of a bundle of reading which his good wife gave to some worthy poor of a literary bent. To a busy man the flood of literature within paper covers comes altogether too swift at times and it needs a stormy Sunday to catch up. So we have arranged for the craftsman to construct a stand which may also be used for sheet music or portfolios of prints if desired.

This article of furniture has not until recently been on sale and is classed among the special pieces for which there is an increasing demand similar to the plate rack which, in truth, we do not need, but, like the monthly magazine, we get them nowadays in large quantities, and would any man deny his wife the pardonable pride of showing her pretty plates, which were bought, presented or won at her card club? So she has her rack for plates and the oncoming monthlies create a new demand also, which gives rise to the display of the accompanying sketches and necessary description. Referring to Fig. 116 it may be stated that the position of shelves, which are of ½-inch material, is optional. The three may be put in evenly spaced or varying as best suits particular need. To avoid securing them on the ends from the outside, thus marring the plain panels of the case, it is best to have them nicely fitted and resting upon a quarter round cleat under each end. The arched framing consists of ⅜-inch stock fitted over the edges of the case, glued and held with sunken brads. This breaks the angular crudeness which most primi-

tive structural pieces possess. The inner edge of this arch is well rounded off, and the outer edge should have the sharp edge

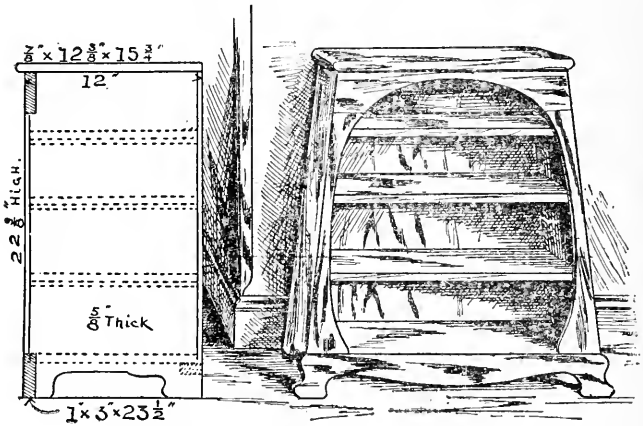


FIG. 116.—Magazine or Music Stand.

struck off also. Main dimension figures are merely given for the general proportion to this and to Fig. 117.

When the detail is laid out in full working drawing the most direct constructional features can then be studied. If it is for

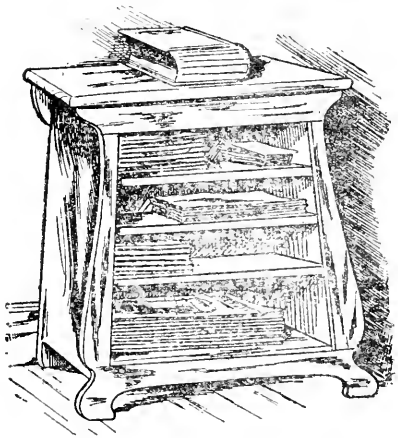


FIG. 117.—Another Style of Stand.

personal use these articles of furniture will no doubt represent more labor and material than would naturally be expended in

making them in quantity. This does not imply that to manufacture in quantity one should resort to questionable methods, with attractive features on the outside only. In all work to be placed on the market scheming in careful detail is very necessary and the outward essential features must be presented in an attractive and, in furniture, the most substantial way possible. With solidity of appearance the sale is more than half consummated, and it matters little with the average customer how this same piece of furniture is held together, whether by the old way of mortise and tenon, or the now generally accepted practice of doweling.

Judgment must be exercised in using some of the modern ways of securing a joint. In the primitive forms of furniture now so popular it certainly is a sham to represent the main structural parts as piercing another member by a sturdy projected tenon with a cross pin. The temptation to do this in imitation only by the easily applied dowel joint on one side and a glued-on *facsimile* of the tenon and taper key on the other is just as liable to be met with as graining maple furniture in imitation of oak. The latter is less reprehensible than the former by reason of equal strength to oak; but a sham is sham for all that.

Relative to the magazine stand, Fig. 116, the case itself consists of practically the two ends and top board, with the front trimming and bottom rail. These brought together in a solid construction would still make a weak body, with great liability of ends, and possibly the top, splitting by overweight, or rough handling. The construction must be held together by a framing immediately under the lower shelf. The making of this framing is an illustration, then, not necessarily confined to this particular article, of the value of utilizing the least amount of material to secure the proper support for the outer case.

Turning again to the stand, the ½-inch shelving may be used with equal reason for the lower shelf, when immediately supporting this is constructed a skeleton framing consisting of two 1 x 1½-inch strips held apart, the width of the stand back of the foot board, by three ⅝-inch dowels chucked and glued. Screws from the inner edge of these strips may be driven into inside of

foot board and to the bottom, upon which the back filling is tacked, this of a sheet of heavy white wood veneer, or low-grade ⅜-inch tongue and grooved lining. On the line of, and fitting between this dowel framing, a similar strip is glued and screwed from inside to the end panels. Arrange for bottom shelf to fit over this framing snugly and set in a ½-inch rabbet on edge of foot board. Through end strips and dowels underneath screws should be driven to hold the shelf board securely.

It will be seen that many under structures can be held together by the use of dowels, rather than dimension stock and the extra work of mortising and tenoning; in fact, some instances of making joints which are not absolutely depended upon for strength. The use of the "corrugated steel fasteners" is very successful, as it oftentimes is desirable to use a cheap mitered framing, which is used in the nature of a reinforcement, the facility of driving them in across the freshly glued joint being accomplished much more readily than the work of halving, or attempting to drive long brads.

The Serving Stand

When living rooms are necessarily small, heavy furniture oftentimes proves to be a "white elephant." The cost of ground, particularly in large cities and towns, is a factor in compressing our ideas, and in building it is frequently required to plan a certain number of rooms within a given space, with so many windows and doors that are communicating, that the usual large sideboard for the dining room is found to be a misfit. This living in "band box" style among city dwellers and flat occupants has created a demand for intermediate-sized pieces or the "patent back action" all around utility furniture. While it is not on record that the apartment dweller has as yet been supplied with a folding bed to be converted, on arising, by the turn of a lever into the breakfast table, yet the general utility idea does provide a bed by night and to all appearances a mantel by day. The "much-in-little" space requirements have incited many bright ideas, and the carpenter has exceptional advantages by his constructive ability to study and experiment in

this field of compressed utility. The invention of the most compact kitchen cabinet, containing everything needed, from a nutmeg to a half barrel of flour, is undoubtedly a blessing to the housewife of a 10 x 12-foot kitchen.

The serving stand is a modified type of the sideboard, or, properly speaking, it was the original food-serving stand, from which, with a desire to inclose some articles of food or drink, the buffet was designed, with its drawers and cupboard-like inclosures, it was a transition as wealth and the family increased to have this piece of furniture made very large, and the sideboard became a repository of riches in family plate and silver.

These are a valued inheritance to the few who are fortunate in having one left to them, but it is feared that many were not

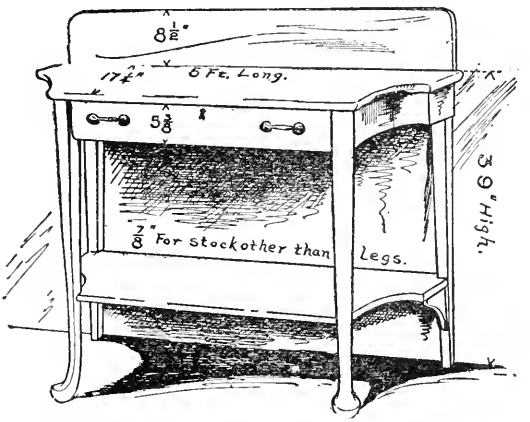


FIG. 118.—Elementary Pattern or Serving Stand.

properly appreciated to be in evidence today, on account of the weight and size, and so, like the old four-post bed, modern requirements call for something which does not quite take up the entire room. The illustration, Fig. 118, is an elementary pattern from which many modifications can be made leading up to the pattern in Fig. 119, which approaches the so-called buffet. This in turn offers sufficient suggestion to use the same size treated in various ways and still have the same directness of

construction. The two pilasters in front offer a good field for variety in outline and in surface for carving. By the exercise

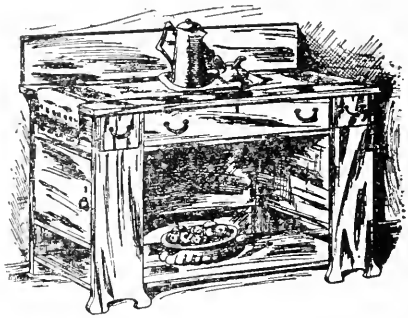


FIG. 119.—Design for a Buffet.

of a little study on paper it is surprising how two such members will present great variety in treatment.

CHAPTER V

STOOLS AND OTHER USEFUL FURNITURE

HOW THE CLEVER MECHANIC CAN FURNISH THE HOME DURING OFF DAYS—SOME ARTICLES WHICH HAVE BECOME A NECESSITY

INTER interests and outside occupations are frequently interrupted by weather conditions, and, as the various holidays come and pass, suggestions enter the mind of the many things which might be made—articles not only highly essential but many which might be classed as luxurious comforts were we to buy them for our own use. The purpose of this article, at what may be termed the shut-in time of the year, is to consider a few of the many pieces of household equipment which partake more or less of the nature of gift pieces—the things which the housewife would like to have you make for her; features to the home which aid her to plan and make it attractive and modern.

I am writing intimately on this subject, for there has just been a decorative upheaval in one of the living rooms, and before the paperhangers had cleaned away their sticky mess feminine desires called for another bookcase of special size to house the many books which had accumulated, so not a few fragments of evenings and Saturday afternoons were used to bring about this particular piece of furniture.

I think the cedar chest and the bed box will be the most desired and needed, whether the home be amply provided with closets or store room or is so compact that the space under the bed must be used. Whether it be entirely true that red cedar repels moths and insects, the wood itself has enough virtues in its color and markings as well as lightness to recommend it for a storing chest for woolens and furs.

Little need be said to the carpenter about its construction, as it is simply a box of the acceptable form and size, the parts of which may be assembled by the usual box construction, or more elaborate joining may enter into it. Whatever the method, be it dovetailing, mitering or lap-jointing the corners, a small triangular strip set in glue around the inner corners helps the finish, while frequently the outer corners, as shown in Fig. 120, are

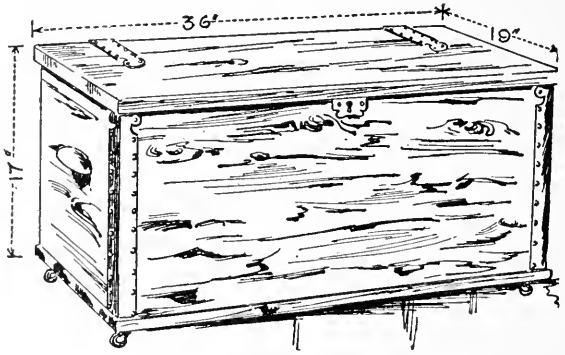


FIG. 120.—A Cedar Chest.

given an added finish by bending a heavy plate of brass to fit the corners. A simple scroll or other ornament may be filed out or cut on the jig saw, according to taste.

As our experience with the cedar chest partakes somewhat of the revival of the old dower chest, much license and personal whim may enter in the final ornamenting by brass bands, hinge plates or some decorative escutcheon plate.

Another size of chest than that shown is 24 in. high, 24 in. wide and 48 in. long; still another is 17 in. high, 16 in. wide and 32 in. long.

The more modern Utility Box is of the same shape and proportions as the cedar chests but smaller and lighter, being:

14 in. high, 15 in. wide, 27½ in. long.
15½ in. high, 16½ in. wide, 32 in. long.
16½ in. high, 19½ in. wide, 36 in. long.

These are for ladies' shirtwaists and other apparel of a light character.

In Fig. 121 is shown a light sliding upper tray about two-thirds of the length of the chest and 3 in. deep. This sets on a

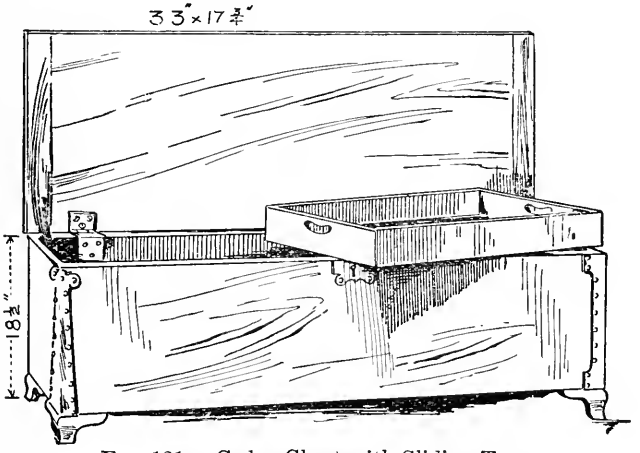


FIG. 121.—Cedar Chest with Sliding Tray.

neat strip secured to the inside of the chest, the material of the tray being ½ in. in thickness.

Living in flats or small homes will soon create a desire for more storing space and the under-bed box offers a very ready means of laying away ladies' skirts or any other long garment. With the small wooden wheels projecting slightly over bottom edge of box, it may be drawn out very easily from under the bed by means of a handle secured to the front panel. Cedar may be

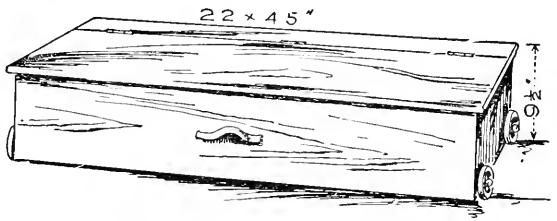


FIG. 122.—An Under-Bed Box.

used for this also, but as it is not on dress parade other woods, such as pine, sycamore or basswood can be used, and with care-

ful surfacing of the boards and final smooth sanding, such a box may represent good carpentry just as well in inferior wood as if it were in mahogany. The wheels are either sawed or turned to 4 in. in diameter and ½ in. thick, provided with a ⅝-in. hole, through which is passed a short wood axle with a round button head, the end of the axle being driven into a tight hole in the ends of the box. An offsetting wood washer should be placed between the wheel and the side of the box.

One thing suggests another, and to provide a proper place for ladies' hats Fig. 123 will be given the greatest consideration in

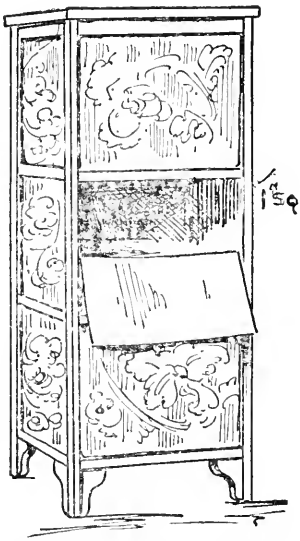


Fig. 123.—Stand for Millinery.

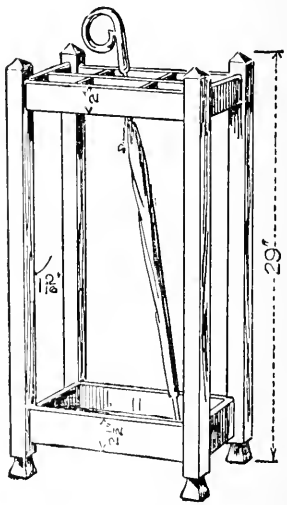


Fig. 124.—An Umbrella Stand.

a lady's bedroom, for in the three boxes she may find ample space for the modern hat. What the size of these boxes shall be no man will ever know, but make them big enough; that is, the stand, for it consists of four 1-inch posts, two center boards and top and bottom fitted as shown. As to the boxes, they should be three of the same size pasteboard boxes covered on the outside with a figured cretonne. The stand may then be made

large enough to permit of the boxes being set in and taken out readily. Oak, mahogany or white enamel finish will create a very attractive article of furniture when completed.

A place for umbrellas eventually becomes a necessity, and Figs. 124 and 125 represent two forms. This is one of the many objects which also prove an acceptable gift. Fig. 124 is 12½ x 14 in. and 29 in. high, outside measurement, while Fig. 125 stands within 14 in. quare and is 32 in. high. The posts are set at an angle of 45 degrees with the sides.

The shape of the posts which are secured from stock dressed 1 in. thick and the curve of the foot contained within a width of 2½ in. should be laid out on paper and a pattern drawn and cut

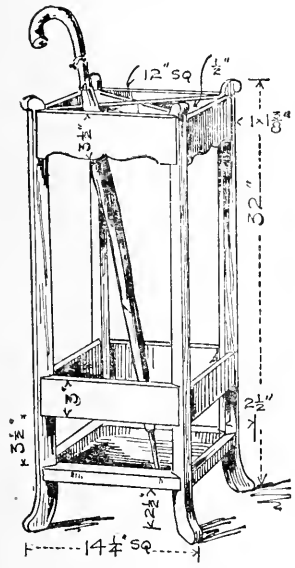


FIG. 125.—An Umbrella Stand.

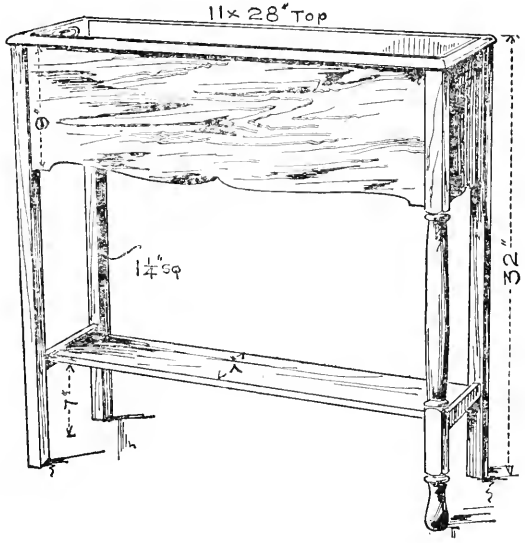


FIG. 126.—A Plant Stand.

out. The lower framing in each style, Figs. 124 and 125, contains a light galvanized iron or copper drip pan, which can be made to fit.

Another form of furniture which the winter months suggest as quite necessary is some orderly place to hold the plants which we desire to have. Fig. 126 admits of a very simple treatment,

as shown in the three plain Mission style of posts, or they may be given an Early English turned form as suggested. A loose fitting galvanized pan should be made, provided with lift-up rings at each end. Oak with the customary finish is the usual wood for this article, although it is very attractive made in basswood and enameled white or old ivory.

A beautiful fern or rare plant is to be found in every home and Fig. 127 or a similar form of tabouret stand enhances greatly the

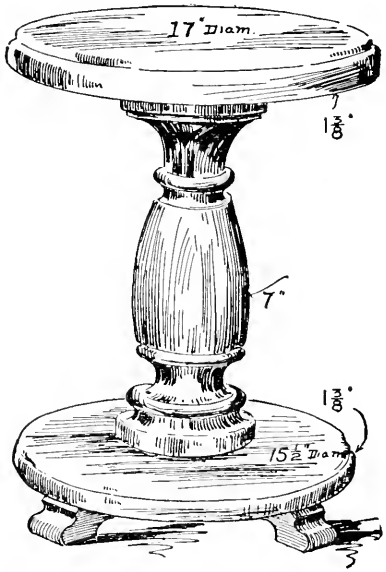


FIG. 127.—Lamp or Plant Stand.

furnishing of a room. With a top 17 in. in diameter and the base 15½ in. the shaft should be turned out of solid or glued-up stock, not less than 7 in. square. The four feet are sawed from 1¾-in. stock 2¾-in. wide, and are fastened to extend 1¼ in. beyond the base.

Fig. 128 is within the ability of those who are not equipped with a turning lathe to turn such a pattern as shown in Fig. 127. In Fig. 128 the four posts are marked from a pattern drawn out as shown at A within a width of 4¼ in. It may be marked out

on a board 1¼ in. thick, dressed, and two legs secured in a length of 32 in. The view of the stand shows the form of construction. It might be suggested that joining with the lower shelf should be by the use of a ⅝-in. dowel with the greatest length passing slantwise through the cross grain of the post. This would insure strength at a point that is considerably cut into. The pat-

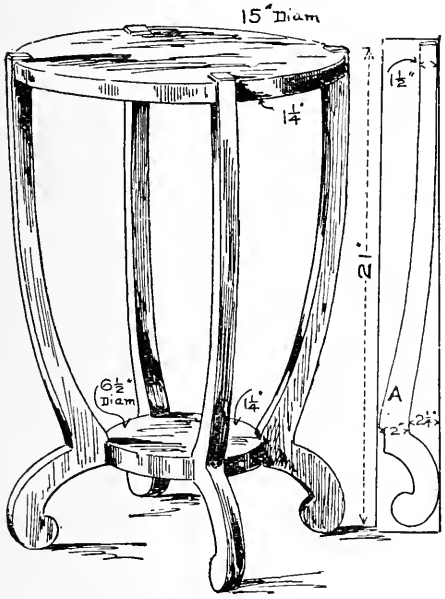


FIG. 128.—A Small Stand.

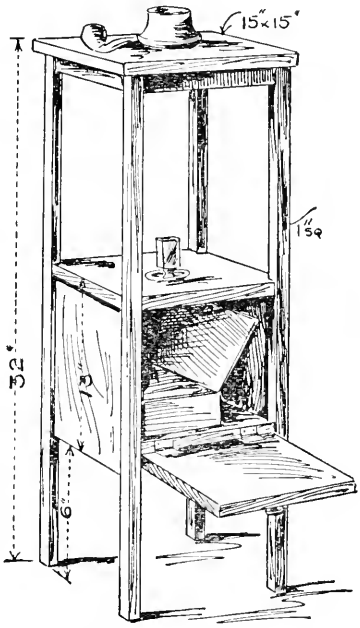


FIG. 129.—A Smoker's Stand.

tern is offered as an expression of the very popular Colonial type.

A man of tools seldom gets an opportunity to make anything for himself, but it may be barely possible that he can slip in at odd times a smoker's stand to care for his smoking outfit. Fig. 129 is a simple form which can be elaborated on if desired. It is 32 in. high and stands within a square of 13½ in. The construction is evident and requires no explanation.

For the proper care of sheet music a cabinet should be provided. Fig. 130 illustrates one form which is very simply made,

using in connection with the 1¼-in. square posts, boards ¾ in. thick throughout, or making up ⅞-in. x 2 in. front door frame, and putting in a thinner panel having some particularly fine marking, or figure, or inlaying some simple square or diamond of

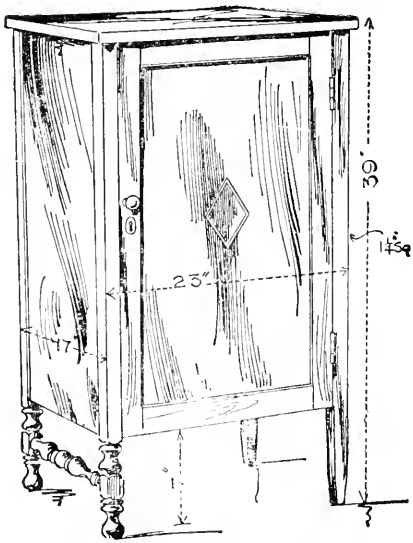


FIG. 130.—A Music Cabinet.

lighter wood as a distinctive feature. The bottom consists of a board shouldered out to receive the corner posts and the sides and back are secured to it by sunk screws and glue corner blocks. The back may be made up of basswood into a paneled frame like front door. The disposition of shelving is much to be decided by personal needs and ideas and in view of the prevalence of automatic piano players and phonographs, some thought might be given to spacing for such records.

Little need be said of the three forms of book holders except that they suggest quickly-made articles for friends, or the various members of the family, for the holding of choice personal and often-used books. From their size some cherished piece of wood may enter into the construction, and in the making and after-finish develop some hidden beauty of color and grain.

Fig. 131 is an instance of some simple form in which rare grain marking often occurs when wood is worked into a simple undu-

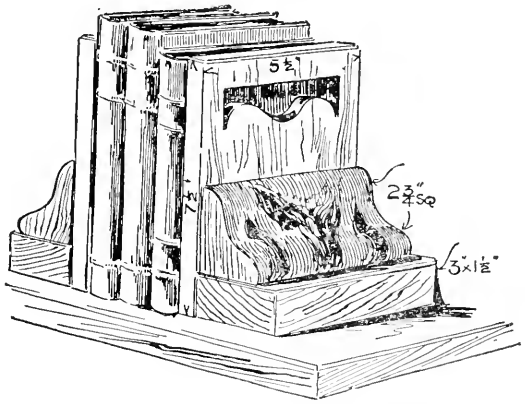


Fig. 131.—Book Blocks.

lating surface. The three blocks when fitted and glued up form the end of a book support which is simply used for a few favored books on one's sitting room table. Fig. 132 shows a colonial

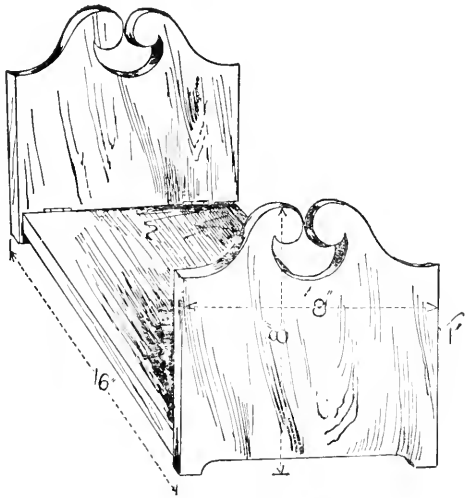


Fig. 132.—A Book Rack.

treatment of a common form of rack. Fig. 133 is a revolving book holder built on the plan of an Indian "Swastika" over a 12-in. square base board which revolves about a central pin or bolt with a washer, held to a base as shown. This offers a very

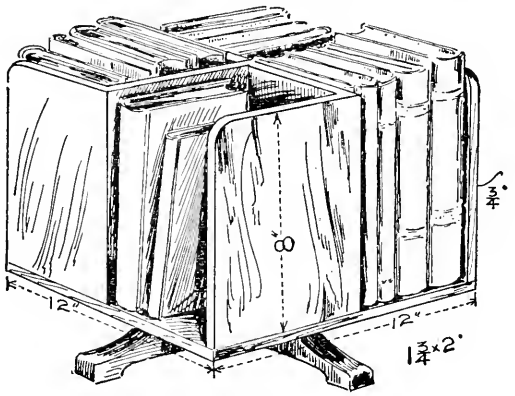


FIG. 133.—A Revolving Book Holder.

convenient holder for certain books which come in sets, or for the student who uses several books which he desires to have at hand.

Workstands and Sewing Tables

The sewing stand or work table is like the wholesale warehouse—not drawn upon constantly but a place of last resort when the stock of little things is exhausted in the small basket the ladies like to carry about. The stand, however, in large operations of dressmaking and also when sewing is laid aside is quite indispensable and is a part of the furniture equipment of a well furnished home.

In the construction of the workstand the early colonial models are perhaps the best because of simple pattern and because the industrious women of those days knew more of the requirements than unfortunately do many women of the present day. Fig. 134 represents such a type with two drawers and drop leaf on each side.

What few original pieces are to be found and the many copies made from them in recent years are always made in mahogany

or are examples of careful veneer work in crotch or cross-band veneers. Custom has so dictated the use of material or color for certain purposes that it is no whim to say—from a selling

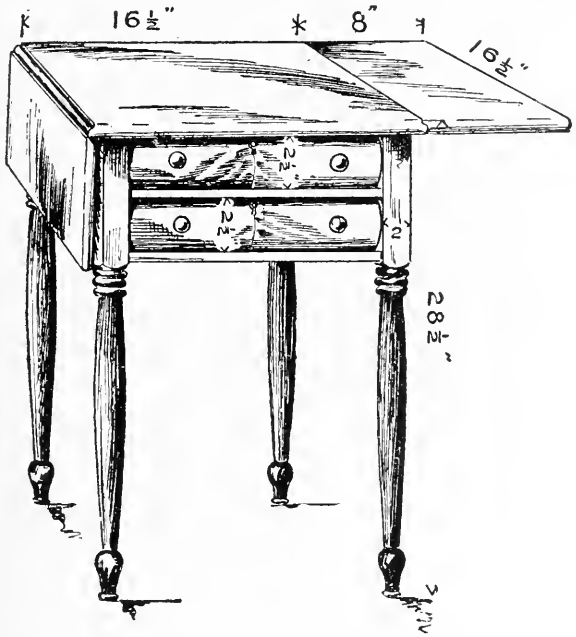


FIG. 134.—Colonial Work Table.

standpoint—that such a piece of furniture would prove acceptable to critical taste even if made in any other wood than mahogany.

The work stand while infrequently used takes up space and for this reason should be a sightly piece, while the idea of utility and beauty are equally important.

Referring again to Fig. 134 it may be interesting to state that it consists of four 2-inch square posts turned, as shown. Three open frames are made shouldered to receive the squared portions of the posts, as indicated in the drawing; one for the bottom, one to divide the two drawers and one fitted flush with the top of the posts. These frame rails, which are 13-16 in.

thick, may be immediately doweled into posts or made into glued-up frames and the corners cut out to receive the posts, the latter being then drawn up to the corner by counter-sinking screws in a diagonal hole. The sides and back having been relished on the inside edges are set in grooves prepared for them in the posts. The top then is pulled down tight by means of screws set in from under the top open frame. In passing it may be stated that it is not advisable to glue any table top to its frame or bed as it is unable to go or come in different temperatures. True surfaced and well fitted to the case or apron with screws properly located will be sufficient.

The drawers are made in the usual way, lap dovetailed for the front corners and common dovetailed for the rear corners. The fronts, however, are 1¾ in. thick to permit of a well rounded mold that is generally faced with a nicely selected piece of veneer jointed in the middle of the drawer in crotch effect—that is, burl veneer edge jointed in a diagonal manner with the figure taking the directions of an inverted V. It will be noticed that the rule joint is one of the features of such table tops. It certainly is desirable in comparison with the square edge and should be so treated if a pair of planes can be improvised to make the hollow and concave mold.

Another feature which is good enough to copy is one manner of holding up the two side flaps of the table, as shown in Fig. 135.

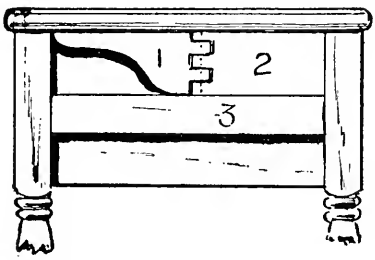


FIG. 135.—Detail of Table Leaf Support.

In order to provide for this, the panels on each side of the drawers are set into posts sufficiently to allow of the three pieces 1, 2 and 3 of ¾-in. thickness to set 1-16 in. within the face of the posts. The parts marked 2 and 3 are glued and fastened to the side panel, while No. 1 operates in a loose double "tongued" and groove joint provided in No. 1, a steel wire holding them in place. In operation No. 1 is swung out when the table leaf is raised in position and forms a firm support for it.

The construction of the work stand shown in Fig. 136 is very similar to that of Fig. 134, having the two small drawers for materials and the large lower drawers for more bulky goods.

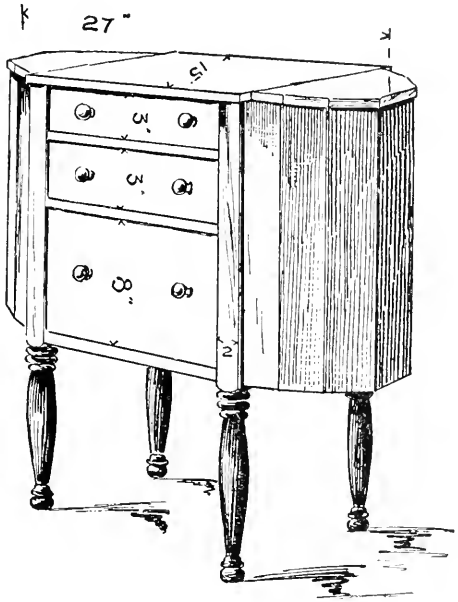


FIG. 136.—Colonial Workstand.

The two seven-faced compartments on each end of the stand offer ample room for sewing under way or in progress or for rolls of material which accumulate at dressmaking time. The cover or top of the two compartments hinge and lay back on top of the table when open.

In Fig. 137 is shown a very serviceable wall stand which takes into consideration ample top drawer space for scissors, spools, needles, books and other equipment, leaving the large lower drawer free to put away unfinished work. As will be seen the sides of the drawers are parted from the outside of the case by the thickness of sliding strips of $\frac{3}{8}$ in. hardwood, one being secured to the drawer side and operated between a top and bot-

tom strip fastened by screws to the inside of the ends. These closely fitted and rubbed with soap or paraffin will cause the drawers to work smoothly and evenly.

Fig. 138 is another form of sewing stand quite common in colonial days, and now meets with favor as a gift piece which

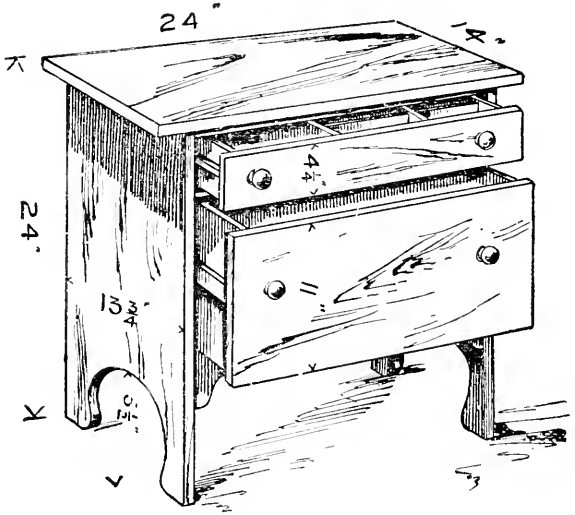


FIG. 137.—Workstand.

spare moments may bring about and afford an immense satisfaction not only to the recipient but the giver in making it. The posts of 1⅛-in. dressed stock are placed diagonally to the frame, and a top frame is secured over all to which are hinged two panels, which when closed form the top. A removable tray as shown sets over a small cleat on inside of apron. Below this tray is tacked the bag of dark green baize, to contain dress work and materials. The two table tops when open may be supported by a very thin swing-out bracket hinged to the table legs and fitting under the center table frame. This stand and all forms of sewing tables are most appropriate made in mahogany or walnut, and when made in oak the dark nut brown or fumed finish is always pleasing.

While in more modern times the stool is sought after as the most serviceable piece of furniture upon which a child may em-

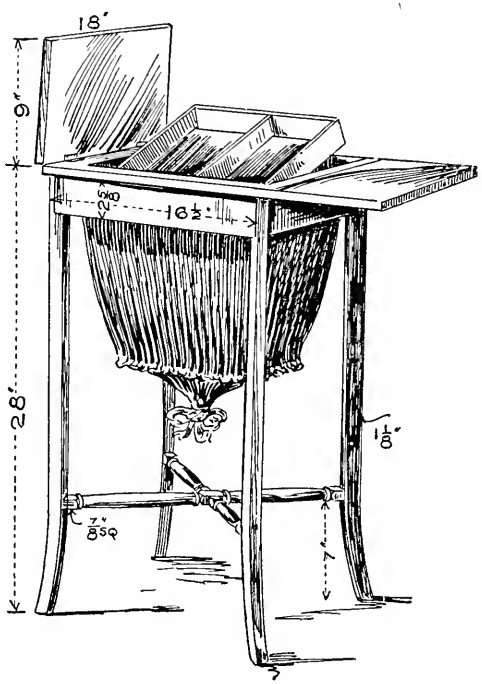


FIG. 138.—A Sewing Stand.

ploy its nervous energy in swinging and balancing around on all sides, it is also a very comfortable addition to an easy rocker or armchair to rest tired limbs. As an article of furniture it adds much to the various ways the tactful housewife likes to "shift scenes and set pieces" of her rooms to create an entire change. The woman of today has little use for the three or five-piece suit—that and nothing more—arranged severely about the parlor, as we remember it years ago. Stiffness and unwelcoming formality has given way to an easy, haphazard arrangement of a room's belongings, and with plenty of small furniture easily carried about there is an invitation in every corner to be comfortable, and certainly not to "stand on ceremony." Then,

too, the stool or stools about the house help out amazingly when the young folks have their parties and chairs are at a premium. Even the flower stand or tabouret may be pressed into service on these occasions.

In our compact way of living in some communities double service is demanded even of the stool, and the open space under the seat may just as well be made use of to hold slippers and shoes, or for the smoking outfit, while a commonplace stool about the kitchen, used to stand upon in reaching high shelves, may do duty in an enclosed box for a shoe-blacking outfit.

In the illustrations presented herewith Fig. 139 represents a handsome parlor piece, with spring upholstered top. The construction is simple, consisting of a 5-inch plain cove molding, mitered at such an angle as to produce quite an overhang at the top edge. Over the square stumps of the carved feet is screwed a ½-inch pine board 9¾ x 11½ inches. This is readily made as an inner construction to which to fit the outermolding, securing this above the board with glued and nailed corner blocks. This board, as seen, is a substantial bottom upon which to secure with staples the five upholstery springs—a spring at each corner and one at the center. From the profile of the foot, shown in Fig. 140, a full-size paper pattern may be drawn and cut out. This foot is of built-up stock 5 inches square. The heavy sawing will require the services of a band saw, the pattern being marked on the right and left faces of the block. After sawing one side do not throw away the scrap piece, but tack it on temporarily in place with a brad or two. This will be needed to hold up the stock square to the saw, and it also has part of the markings on the other side.

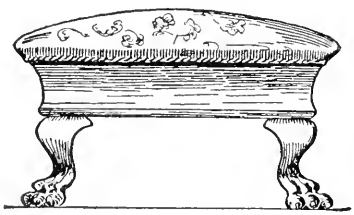


FIG. 139.—Cushion Seat.

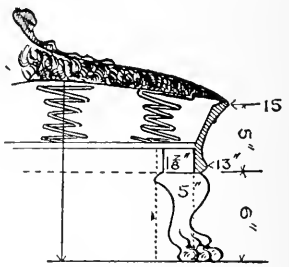


FIG. 140.—Section showing Construction.

The carving of the foot being very simple, the more rugged the effect, even though it be rough from amateur hands, the greater character will it have in contrast with the carefully smoothed-off knee and plain cove above. There would be more carving practiced by the artisan could he appreciate that by carving the slickness of relief work from a powerful die press is not being imitated. It holds in this as in any other work—be yourself. Cut a leaf as it looks, not as a wooden leaf; a lion or bear paw rough and powerful, not smoothed over as though it had been manicured.

To obtain this rough hair-like effect, which shows up so effectively in the after-finish, secure first the indentations defining the toes, shown in the cut, by a large-sized V-carving tool; then with a ¾-inch gouge, not too quick in curve, proceed to round off the corners. Then cut in again with the V-tool and work off to the desired round, cutting out quite a hole between each upper joint and toe, this throwing a shadow and enhancing the rugged effect. In giving the hair-like surface to these ball-like members press the edge of the gouge against the wood at almost right angles. Proceed to wriggle the edge over the round portions, producing a regular series of slight miscuts, which create an overlaid effect that is very striking.

The illustration, Fig. 140, shows how this stool may be upholstered. The bottom of the springs held in place, the first thing to do is to secure them with stout twine at the top, beginning with the twine tacked or stapled to the inner edge of the molding at the top. Draw it across and with a slipknot secure it to the wire; from here across the spring and with a slipknot secure the other wire, and with a little pressure pull down and nail the end of the twine to the opposite side. In this way bridge over each spring, and where the twines cross secure with a knot. The idea, of course, has been to compress by the twine the four outer springs somewhat more than the middle one, leaving this higher to produce the round effect shown. The superimposed material is placed on a covering of stout muslin stretched over the springs and tacked along the top edge of the molding. Cotton batting is then laid on, and held in place here

and there by stitches taken with a long needle. Over this place a little picked hair or moss, then stretch another covering of muslin, conforming the stuffing into an even shape while tacking. The upholstery fabric, or outer covering, may be almost any material strong and pleasing in color, from terry to leather. There are many plain figures of velour which are inexpensive and wear well.

Aside from the sufficient information for construction noted in the illustrations, it might be said of Fig. 141 that the side panels consist of 3-inch material, this being blind nailed to the

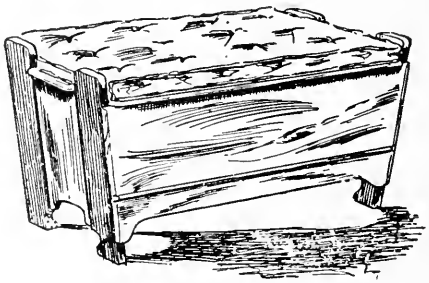


FIG. 141.—A Slipper Stool.—The Legs Stand 1¾ Inches from the Perpendicular at the Bottom.

edge of the end panels, and the corner edges struck well off on a slant with the plane. The effect of setting back the middle panel of the end by using a thinner material is pleasing in the after-finish.

The top, or lid under the cushion, made of ⅝-inch stock, is provided with an inserted strip at each end to prevent splitting. On the two corners a dowel pin is glued and sunk, projecting ½ inch, and acts as a hinge, being inserted into corresponding loose holes in the cap piece A of Fig. 142. This requires the lid and two end caps to be placed together over the box and drop between the projected end framing, when the end pieces are bradded onto the edges of the box, glue being used. A stiff paper or tin washer previously slipped over the dowel will prevent the binding of the lid. The cushion to this stool is made

up like a bed mattress, and is held to the lid by understraps. In Fig. 143 is shown an end view of the framing.

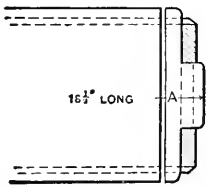


FIG. 142.—Plan of Top of Slipper Stool.

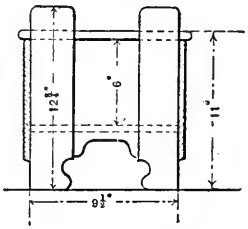


FIG. 143.—End View of Slipper Stool.

The stool and sewing stand shown in Figs. 144 and 145 will prove to be very desirable for the housewife, for the hinged side may be snapped down in an instant, covering up all traces of work in the parlor or sitting room should a caller arrive. The construction is simply four paneled frames, mitered at the corners and supported on substantial feet as indicated in Fig. 146,

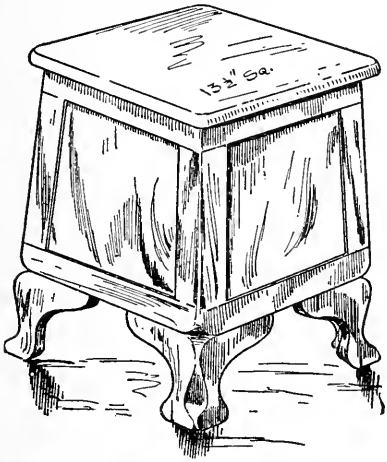


FIG. 144.—Combination Stool and Sewing Stand.

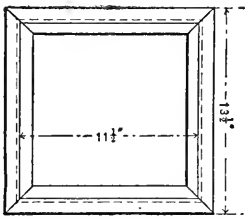


FIG. 145.—Plan of Stand Top and Bottom.

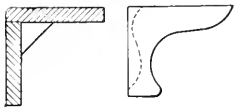


FIG. 146.—Showing Construction of Feet.

with the corner edge chamfered along the dotted line. This gives a French leg effect in connection with a slight rounding of the frame edges, and a decided inturn of the lower corner to accentuate the profile.

The interior finish of this stand must be left to feminine fingers. We might venture to say that in fitting up one or more

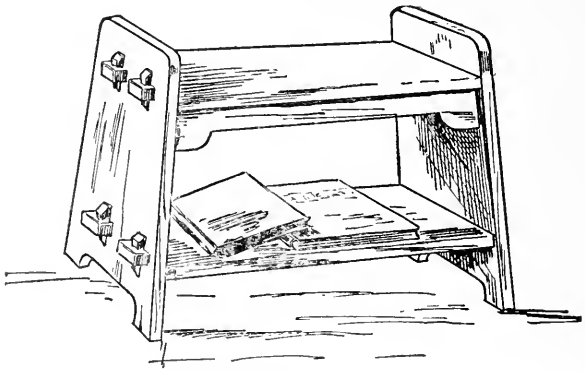


FIG. 147.—A Window Seat.

sides heavy pasteboard, cut to size, could be used to advantage upon which to sew the lining selected, and to serve as a firm

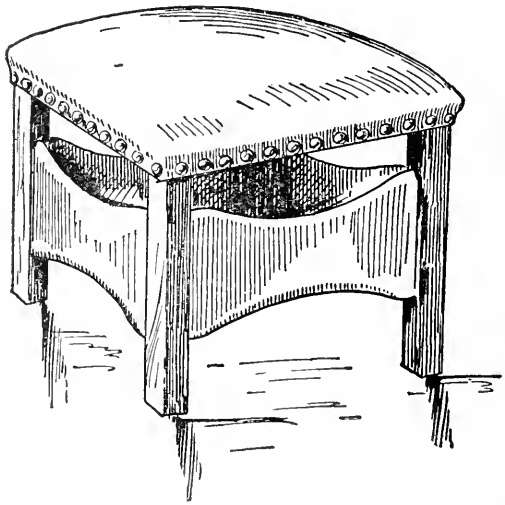


FIG. 148.—A Window Stool.

backing for the various pockets to hold scissors, needle cases, etc. This does away with the objectionable rummage incident

to the round work basket, or, like some poor workman's box of tools, all thrown in a heap.

In Figs. 147 and 148 are shown attractive seats for the window and fireside. The construction is evident from an inspection of the pictures and needs but little comment, except that in Fig. 148 any cheap top board may be secured over the posts and heavy upholstery nails, 1 inch apart, used along the edge of the material. The top and bottom edges of the side panels should be turned off with a spokeshave; also the edges of the corner posts struck off. This gives a hand-wrought appearance very much desired.

In Figs. 149 and 150 is illustrated a handy stool made up at short notice—one day—to add to the length of a servant girl,

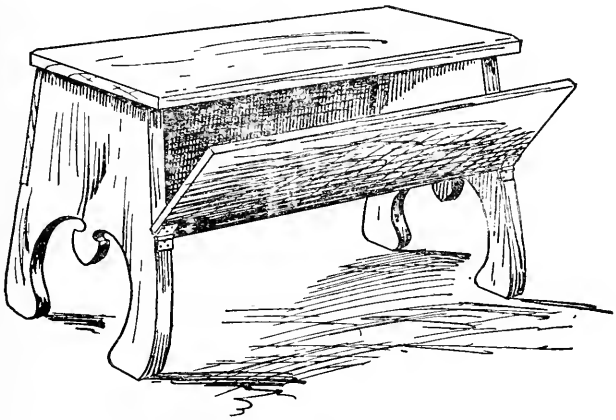


FIG. 149.—Kitchen Stool and Blacking Stand.

who was compelled to use a chair for high pantry shelves. By adding a lower board and dropping the sides on hinges it was made to do double duty as a shoe-blacking stand.

The flower stand in Fig. 151 may be brought under the stool class of furniture, many being purchased for either purpose. This one with the projecting pilasters makes it distinctly a flower vase holder. The lower shelf makes an appropriate place for a less spreading plant or for ornamental shelves. The

height to the top of the shelves is 9 and 24 inches, respectively, and their diameters 16 and 24 inches. The pilaster is from material 7¾ x 26 inches, the thickness for all the parts being

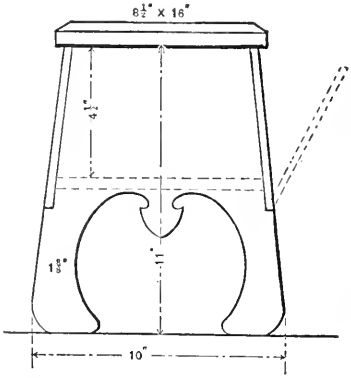


FIG. 150.—An End View of Fig. 149.

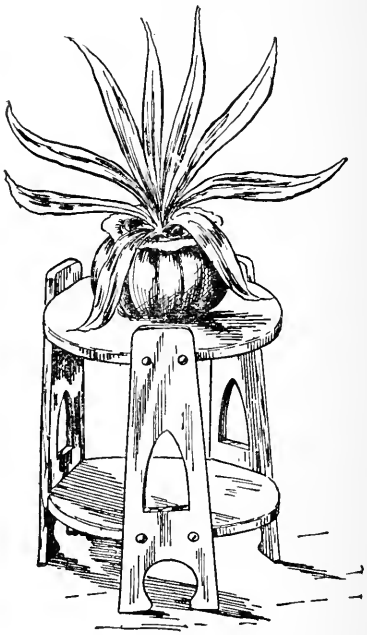


FIG. 151.—A Flower Stand.

1½ inches. Chamfer all edges not less than 3-16 inch. Glue on large flanged turned buttons over countersunk screw holes.

No more appropriate finish could be given the serviceable and movable stool than the prevailing "fumed" tone, wax coated. The brown shade in itself harmonizes with almost any interior color arrangement, and the finish is such that no mar or scratch will show, as will be the case with it if it were finished with varnishes, while the dull lustre may soon be restored by using a rag wet with sweet oil, allowed to stand a half hour and then polished with a dry cloth.

The foregoing remarks relative to "fumed finish" apply only to furniture made in oak, ash or wood of that character. To

use the stain on birch and other close-grained woods a nondescript brown would result. Supposing the article to be treated is oak; the fumed mixture is applied with a brush, allowing it to stay for a few minutes, when the surface is wiped dry. On the following day coat with shellac, and after this is dry rub down with No. 00 sandpaper. Ordinary beeswax is brought to a melted state and applied with a brush, allowing it to stand a half hour before rubbing off the excess with a rag. Start the rubbing across the grain, and finish with a circular movement as a final polish.

Comfort in Reading and Holding Reference Books

On a closer inspection do we get well acquainted with that in which we are interested, but how disinclined are we to go after information which most usually is stored up in large volumes; for after nightfall most of us feel too luxuriously indolent to hold up a book of reference, much less take notes therefrom. There is truly some effort in the use of dictionaries and encyclopedias on account of their unusual size and weight, and whatever facilities frequent inspection of them and a regular habit of reading varied literature, while occupying a comfortable chair at a restful angle, will, I am sure, impel our craftsmen friends to prepare plans for the making of a reading table after the suggestion shown in Figs. 152 and 153. I am a little inclined to think that the main parts of some of these tables which are sold are built entirely too light, for while they are intended to draw easily toward you and adjust to the distance and angle of one's vision, yet they should have at least the four posts strong enough that they would not break or part company with base or top.

Care then should be given to the joinery to make the construction firm, but as light and graceful as consistent, and it may be that some of our readers may desire to put in turned posts instead of those indicated. Mortising the long rails into the posts, and using dowels for securing the end rails into the posts will lock one into the other and also save the strength of the posts.

Personal requirements should be considered as to not only the fixed height, but the extreme width inside between posts.

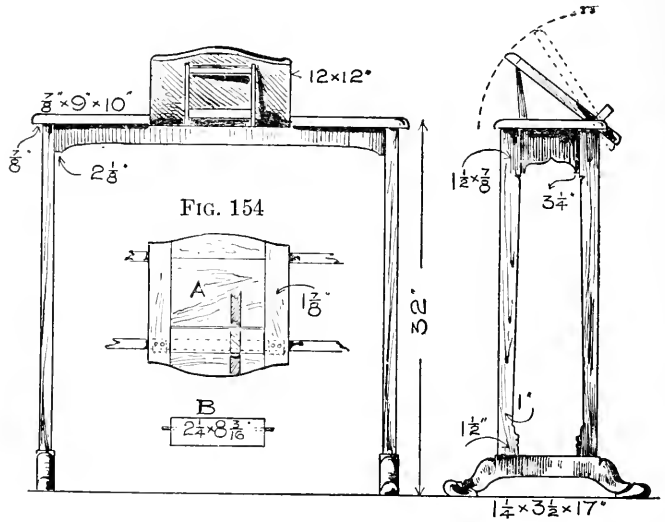


FIG. 154

FIG. 152 FIG. 153

FIG. 152, 153 and 154.—Elevations and Details of a Reading Table.

Some particularly restful armchair or rocker would determine this. The width should be sufficient to allow of the table being drawn readily over the arms, which frequently are more than 30 in. over all, in a Morris chair for instance.

It will be seen that the three parts of the table rest upon the framing of the rails to the posts, the two outside portions of the top being securely held thereto by screws counterbored through rails, while glued corner blocks may give the framing greater stiffness.

The center of the table is a frame filled with a larger fixed panel shown at *A* in Fig. 154, and the smaller, shown at *B* is loose and swivels on steel pins properly located so that it may be swung up at right angles when needed to rest the book upon. The fitting and adjusting of this swing piece is done in connection with fitting up the frame, and when ready to glue up, the steel pins are inserted with a very thin washer between to insure

free action. The larger panel is also set in, being fastened permanently with glue, and the entire frame glued together and held in clamps until dry. By the exercise of a little care the swing book support *B* may be so fitted that only a very slight crack will show on the surface of the table; for detail of this see Fig. 154, *A* and *B*. By experimenting you will find that the edges of movable and fixed parts will have to be treated from underneath as indicated in the section shown. After framed-up panel has been fully completed it is fitted in between the two tops, trimming just sufficiently to avoid binding. Then locate and mark places for two hinges on one side and after these have been fitted to allow all tops to be flush, proceed to arrange for a swinging adjustable support. This is shown in the drawing, but many other ideas may be suggested while you proceed with the work. The scheming and creation of simple devices is a great part in the pleasure in making furniture. It may be that a small drawer or compartment would be desirable, sufficient to hold pencils and note paper, and the supporting device would have to be such as to not interfere —think it out. That is one of the privileges and the joys of a craftsman, to scheme and create simple devices that add to the utility or aid in the economy of space. Recently the writer dealt with an armchair designed for the private car of a president of a large railway. His desire was to have a tablet drawer for paper under the seat; and in the roll arm, his mechanic had secreted a brass tube to contain pencils, one tube working within another and controlled by a secret spring. That chair, personally, was gratifying and he always knew where to find his writing material.

Piano Stool

The pattern of piano stool frequently on sale, or handled by the piano dealer, bears little resemblance to style or features of the piano you have selected. As the designs of pianos are now under the influence of more restful lines and reposeful surfaces the form of stool with turned legs, cast claw and glass ball fails to harmonize, and with this thought such a stool has been trans-

formed and is illustrated in Fig. 155. Piano stools are not usually made by piano makers and we will assume that the reader possesses the conventional type which the piano salesman has presented to him, for it is generally "thrown in" as a generous gift after the sale of the piano has been closed—one never quarrels with a gift, at the time, but surely most frequently

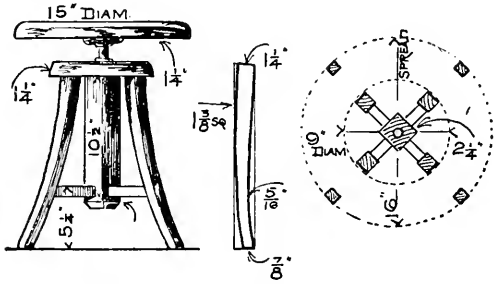


FIG. 155. FIG. 156. FIG. 157.
Details of Piano Stool.

that stool does not match the piano—so withdraw the screw and nut, as you probably will not be able to get one elsewhere; also save the tops and otherwise use the general proportions in constructing a type of stool which will be more in keeping with your particular piano. As in all forms of furniture, the attractiveness is quite entirely in the good workmanship and the final finish. This simple pattern is offered, but modifications may readily be made in introducing certain cuts or features that stand out as a main feature of the piano case in question. The central square column which is bored out to receive the screw and nut may be treated like a "square turning" in which you can introduce the predominating mold appearing in your piano. In this way you individualize your work and it becomes interesting by just that much of yourself put into it.

In selecting the material for the four square taper legs you may be fortunate in finding a piece of 1⅜-in. stock in which the grain happens to run in a slight curve in line with the paper pattern you have made. Nature is often very accommodating that way if we take a little trouble to find it out, and this fea-

ture of cabinet making is the secret of the "old masters," of getting into harmony with their work and material. It is the intuitive bump cultivated so highly which has made their work so prized and enduring. Now, these legs, for instance, may, by a little sorting over or even turning the pattern in a proper way, be made entirely in tune with nature's grain, assuring us that there would be little possibility of one or all of them splitting later on by a badly selected short-grained piece. This is mentioned at some length, for it is the little preliminaries of laying out and beginning which bring about strong and satisfactory furniture. A pattern may be secured from drawing of the dimensions given in Fig. 157. With the pattern cut out of stiff paper, lay it over the selected material of $1\frac{3}{8}$-in. squares and mark all of them. Then saw them on a band saw, or reduce to a line by draw-knife and shave, after which they must again be marked, putting the pattern over the shaped surface and marking with a pencil. A good way to mark a re-shape is to have sufficient thickness of stock in your squares; then mark the pattern on one side; turn it over the back corner and mark again. Saw out and replace with small brads the first refuse piece which contains your marking; then proceed to saw again. You will appreciate this method when dealing with the situation, particularly when proceeding to saw out a claw foot, or leg of various curves or indentations. It is better to preserve the shape of the original square when sawing the second time by tacking on the first waste piece.

The pedestal block is, when finished, $2\frac{1}{2}$ in. square by $10\frac{1}{2}$ in. long, and at the lower end a criss-cross mortise is made to exactly fit down over the 1-in. square criss-cross stretchers which have been previously halved together. A lower finishing cap is then made 1 in. by $2\frac{1}{2}$ in. square with a $\frac{1}{2}$-in. chamfer mold. This cap is finally glued over the finished surface of pedestal block and the lower face of the cross stretchers, passing a screw through all three parts, and small screws or brads at the corners into the ends of the pedestals.

The outer ends of the stretchers have previously been cut to tenons on a slight slant to fit properly into the sloping legs

of the stool. Fig. 156 shows the plan of the stool in relation to contact of legs at the floor and as they enter the round cap block over the square pedestal.

Piano Bench

In a developing family, the piano bench is to be recommended. There is greater freedom of movement and it is condensed for duet purposes, or for the use of teacher and pupil, while the space under the seat is doing service for sheet music. As Figs. 158 and 159 clearly indicate a simple form of construction, little

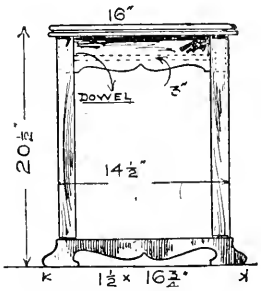


FIG. 158.—End Elevation

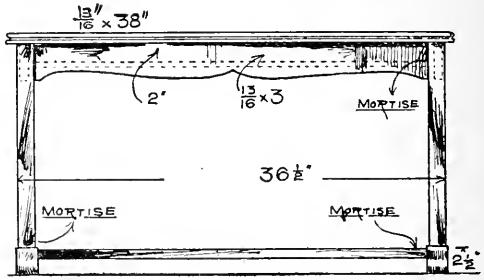


FIG. 159.—Front Elevation of Piano Bench.

need be said. Great care should be given the selection of a well-dried board for the top, as it is a free panel swinging open on hinges after the manner of a tool chest top. This top, which should have a final thickness of ⅞ of an inch, might represent some skilled joinery in the nature of a frame and an inserted flush middle panel, or if a solid panel be used it would be wiser to sink in two narrow cross battens and meet them lengthwise with battens glued to the surface, thus forming a slightly raised framing which would be within the outer frame of the bench when the top was down.

The bottom board of the music compartment, which is 2 in. in depth, should also be well selected to avoid splitting, and cut sufficiently large to have the under edge all around relished down to ¼ in. to fit into a corresponding groove provided on the inside of the rails before the entire construction is finally brought together and glued up. Glue corner blocks fitted and cut away to avoid being seen, and set against the posts under the bottom of the compartment, will also aid greatly.

CHAPTER VI

FURNITURE FOR THE HALL

Hall Seats, Hall Stands and Chairs

IF comfort and generous proportion are in evidence at a glance as one enters at the front door, the impression is conveyed to the visitor that each room bears evidence of its purpose. There are some visitors one does not invite beyond the limits of the hall—the book agent, for instance—and before his departure

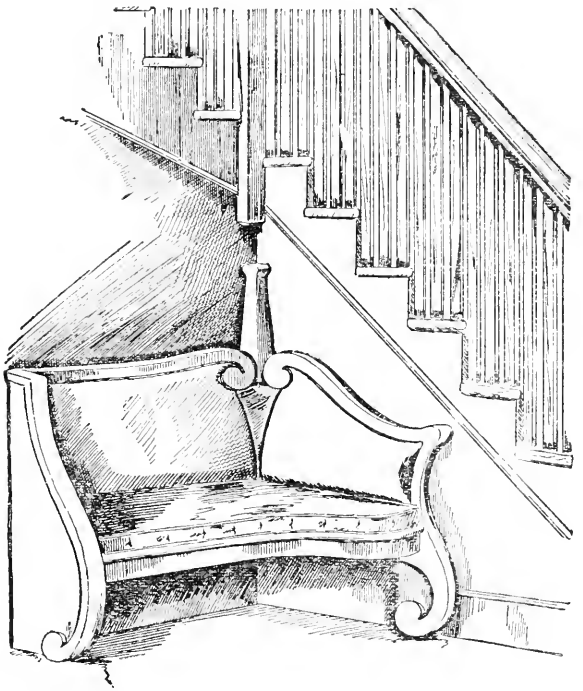


FIG. 160.—General View of the Hall Seat.

an easy seat will be welcomed. Generally the hall seat or settle with its straight back and little depth of seat is extremely uncomfortable. This style has no doubt been followed without much reasoning, but now in these days of rockers and reclining chairs and hard work, the chair that invites you by its back-fitting angle or curve is generally in demand.

The hall seat, as shown in Fig. 160 of the illustrations, while it has a high-grade character is not an extremely difficult piece to make, as will be seen in the end view, Fig. 161. It might be

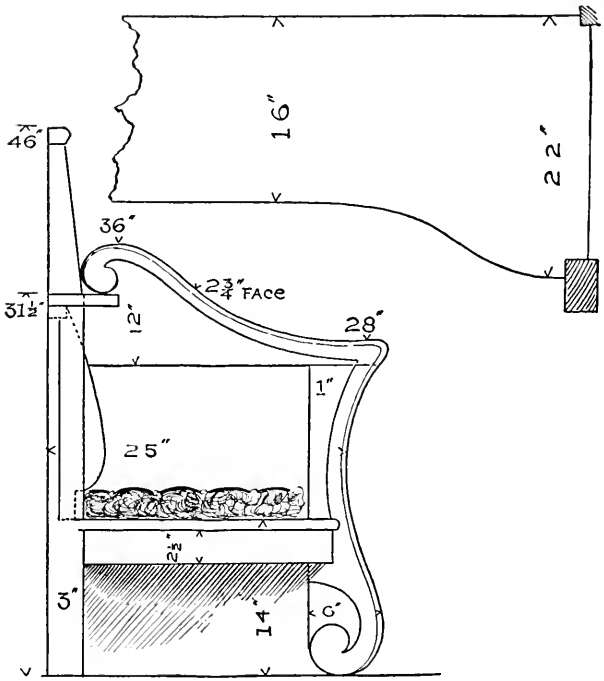


FIG. 161.—End View of the Hall Seat, Together with Partial Plan.

placed in the frequent triangular wall space directly below the first landing, but this is merely a suggestion with no intention to be specifically followed, as such wall spaces vary greatly, but the leg and heavy rail feature may be embodied in a working

drawing to fit individual requirements. The small end suggests a pleasing form to terminate the seat of indefinite length at the turn of the wall, or entrance to a door. This end where exposed to full view should have a good figure, well finished. The width of the rail on this and its continuation along the top is made by gluing on both sides of the center a mold of the shape shown, the top edge being worked down smooth as "one piece," having a slightly crowned shape. Where a large space in the hall is available even 19 or 20 inches is none too deep for the seat, instead of 16 inches, as indicated on the seat shape. The turn of the seat, however, into the corner makes up for an entire lack of the proper depth.

As indicated in the bulging line showing the proposed upholstering immediately over the seat cushion, a soft wood block of similar shape placed at frequent intervals will be necessary to falsely build out the overstuffed work into that conformity which is so comfortable to the back, and which few hall seats possess. A man familiar with upholstering or a carriage upholsterer should be given such work. The needs of the upholsterer are just as great for frames as would be the needs of the carpenter for the work of the upholsterer, so that the combining of forces is very frequently the result of a satisfactory furniture business. Much of the furniture of the present time is provided with upholstery, particularly of leather, giving it greater comfort and an air of sumptuousness. By closely observing the models about him a man skilled with tools may do very creditable work in a short time, and the suggestions given in Chapter XVI will be of benefit, the first dealing with spring-cushion work, while the other has to do with the loose-bag work so much in favor on types of mission work.

In Fig. 162 is presented a suggestion for a hall seat which can be made without cushions, although the wife may have something of that kind on it after it is finished. The main idea here is not so much originality of pattern, for it may be the ordinary hall seat or bunker, not much more than a high-grade packing box in proportion, but a comfortable treatment may be given the back by making this into a neatly framed panel which, when not

in use, may be pushed back as a part of the wainscot effect. When it is desired as a seat the lid of the bunker pulls forward to a stop, bringing with it the lower edge of paneled frame to an angle, which is more to be desired than a right-angled position, small butts being used to allow of a loose joint. A trimming mold

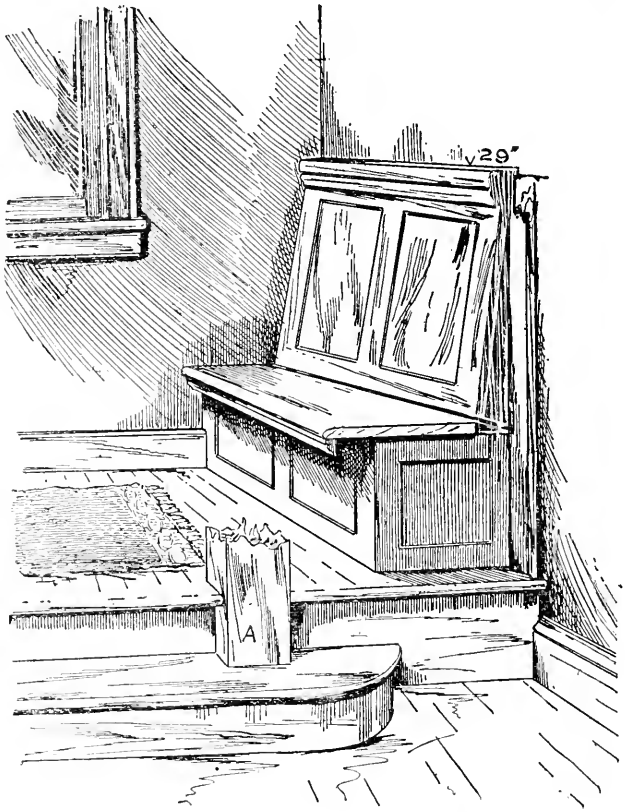


FIG. 162.—Another Style of Hall Seat.

should be provided at the top as a detached apron, which will permit the frame to move slightly forward and down without showing the top edge. Illustration, Fig. 162, shows the idea sufficiently. When removing articles from the bunker raise the lid slightly, push back the frame in its regular position and

then raise the lid to any angle desired. In the illustration A indicates the post to baluster rail, which would form an arm rest at the end of the seat in most hall arrangements.

Hall Frames

Were it not for the expense mirrors should be used plentifully about the house. It would not be with the thought of vanity, but one of expansiveness, seeing double, as it were; and in the hall, and particularly the town-house hall, or vestibule, this means of deception should be employed to apparently enlarge the rooms. Aside from the reflection the surface of a mirror, if placed with some thought of catching light from some distant opening or window, has much to do in lighting what would otherwise be a dark room. For this reason the console stand, dealt with on page 143-4 is a good piece of furniture in the reception hall. This brings the subject to a substitute for, or possibly an adjunct to the console—the hall frame—in which the mirrored surface plays an important part, or should play an important part, other than for trying on hats or arranging a necktie. The days for a little triangular or heartshaped patch of looking glass fixed in between some hooks are past, and the hooks of a smooth pattern are now somewhat on the outskirts of a large expanse of beveled mirror, the edge of which is cut to an easy line or square.

The two extreme patterns of hall frames shown in Figs. 163 and 164 illustrate the character of prevalent styles, either a form having an easy outline with smooth surfaces and rounded-off edges, or the more severe outline shown in Fig. 164, having a pronounced breaking away, however, from the straight lines and square corners of the Mission; the surface also is broken into by some simple perforations, as indicated.

It is evident from the framing of Fig. 163 that in making the felloe joint, either the width of the stock of the three parts must be sufficiently wide to provide for cutting out the rounded corners on the inside, or the curve secured by building on by glue joint sufficient width in the rough to produce this curve. This joint may be accomplished either by a butt joint and dowels; or on the reverse of such a butt joint, the stock may be gained

out, inserting a lapping piece, which will not show from the front.

The three horizontal hook molds will have to be worked out of stock 1½ x 3¾ inches into shape similar to that shown.

No attempt should be made to place the mirror in from the

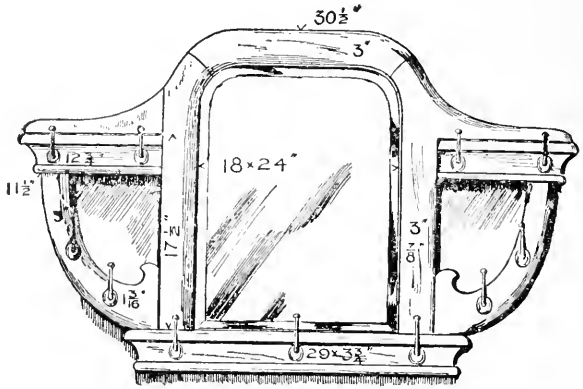


FIG. 163.—Hat and Coat Frame for the Hall.

back into the usual rabbet, but fill the opening with thin backing, and prepare a small, neat quarter mold, which is tacked

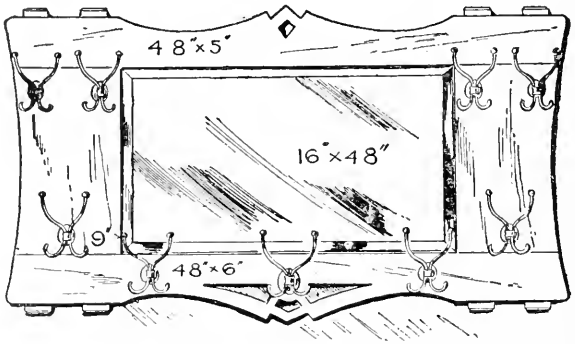


FIG. 164.—Another Style of Hall Hat and Coat Frame.

snugly into place after the mirror is set in the frame from the front. This is more expeditious in many ways than in preparing a rabbet.

The attractiveness of Fig. 164 depends largely on a judicious selection of figure in the wood. Were this made in the factory the honesty of the purpose in the projected tenons might be questioned, as they are most frequently blocks glued on to make it look honest and "primitive," the bonding of the joint being by dowels. In this instance they happily are both a part of the construction and design and should be so treated.

The hall tree or stand becomes a necessity not only within the spacious entrance of the house, but variations for limited space may be constructed, which will give greater dignity than the cleat provided with hat hooks so often seen in contracted hallways. Considerable ingenuity may be expressed in designing along the lines of the "much-in-little" idea, and from a salable standpoint compactness, with a varied range of usefulness, should be borne in mind.

The mirror is a desirable addition—the ladies not only finding it indispensable in getting a last look, but indifferent man, from an unconscious look, may realize he is ready to depart for business, and that he would look better to exchange his skull cap for a street hat.

When considering the hall tree of some pretension, a closed-in box under the formal seat usually made, will be found the best place for overshoes. At the sides a curved device of wood or metal should be secured, in which umbrellas and walking sticks may be placed, their ends resting in a hollowed metal disk formed and fastened to the construction. As the hall stand is really a mute servant, ever ready to relieve one of street encumbrances, it therefore should be treated with consideration and made to assume a "good front" as the guest enters the hallway. By the exercise of a little thought directed to this part of the house before the final finishing, the carpenter or contractor may develop many ideas which will accentuate the expression "the first impression is everything." A little extra use of finishing material enables him to make the hall tree a part of the house free from the objection of portable furniture in contracted quarters.

The built-in china closet, sideboard and refrigerator are ex-

amples of space saving which appeal strongly to the purchaser or the prospective tenant. This is just in passing over the subject, as many will be interested in some befitting scheme for the wraps and hats of many hallways, unprovided with more than a stand or old hooks. In the accompanying illustrations is shown in Fig. 165 a serviceable hall piece for small space, or for the

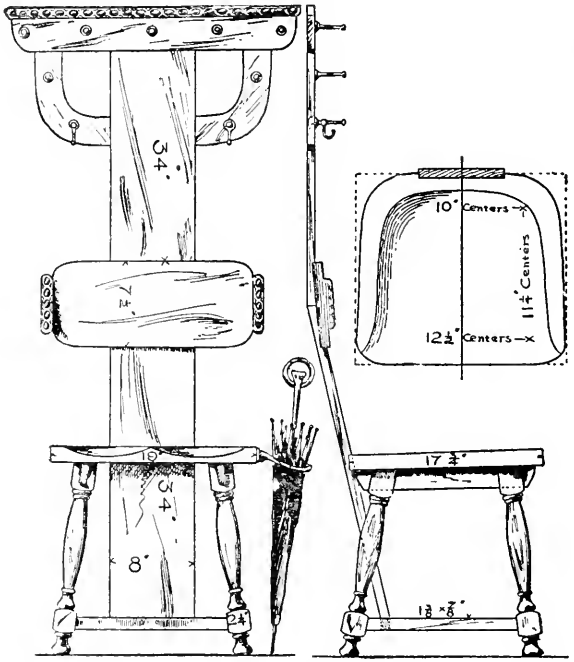


FIG. 165.—Front, Side and Plan Views of a Convenient Hall Tree.

second flat hall landing, should one live in the benighted country of flats. The mediæval style of the chair makes a desirable base to extend the banister and terminate it with a cross bar for hat and coat pins. Back and at the ends of the middle slat may be secured large metal rings for the umbrellas and sticks, or there may be a large ring at the side of the seat, as shown in the drawing. Reinforce the horizontal panel or back rest by battens glued and screwed on each side of the banisters or uprights, thus

insuring the slat from splintering. Modifications of this may be made by having the legs of square stock built on the same plan with panels between, and a bottom, making it into a box for overshoes. This is a piece of furniture which looks particularly appropriate when finished in fumed oak.

In Fig. 166 is shown a piece of furniture by which great convenience is secured all around and inside, within limited space.

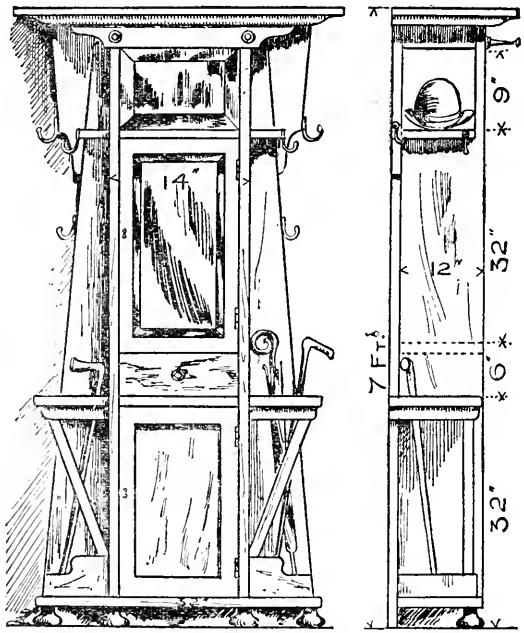


FIG. 166.—Front and Side Elevations of a Hall Stand.

The construction of this, as well as that shown in Figs. 167 and 168, is straightforward and readily enlarged to working detail.

In making a drawing of Fig. 168, first construct the plan at the seat line, within a diagonally cut square, the sides of which are 30 inches. Draw the plan of cabinet above the seat, within a similar triangle, the sides of which are 23 inches. In detailing the seat, have the depth 14 inches from the rear edge, of which a plain board, tapering in its length of 54 inches, 7 inches less

where it joins the underside of cabinet, thus giving an incline to the back. The front of the cabinet is 11 inches high, and the

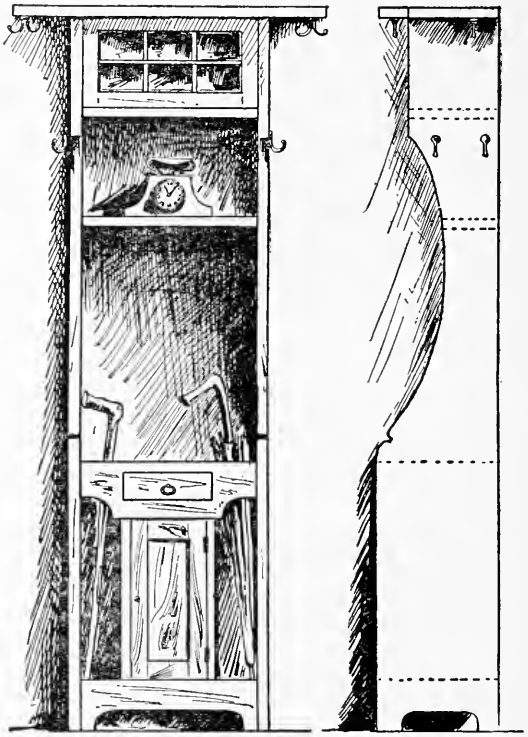


FIG. 167.—Front and Side Views of Another Hall Stand.

total height of the stand is 7 feet. Sufficient measurement and suggestion are given so that the length of the underdrawer is optional. The seat may be made to lift up, being hinged at the back and doing away with a drawer and pulls.

The Console Table

The heating of the residence today from some hidden source, the furnace or boiler, gives little excuse for the mantel, much less the make-believe chimney breast. This naturally has

brought back the console to break the blank wall space. While at one time or another in its use it was somewhat of a movable piece classed among furniture, this was due no doubt to the fact

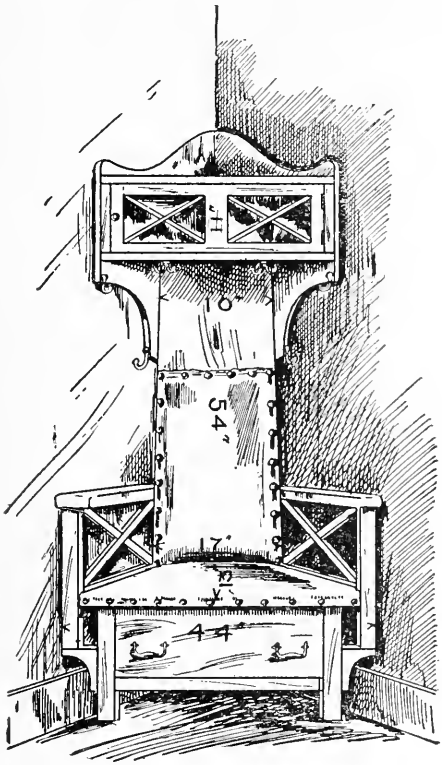


FIG. 168.—A Corner Stand and Seat.

that an elaborately framed mirror was hung immediately over the wall or half table, creating an opportunity for the incoming or outgoing to arrange their hair and wraps in a manner entirely satisfactory to themselves. Then, too, the mirrored expanse of glass reflects and apparently makes double at first impression one's possessions and their arrangement far more than did the usual small mirror above the mantel.

The console table, as well as many other furniture pieces, has been remodeled along the lines of present-day thought, and the

mirror and table are joined, having the form of a fixed wall framing with a table—or, more properly speaking, a shelf—supported by consoles, brackets, short columns or a paneled base in conformity with the nature of a surbase and all that is above partaking of the character of the interior trim.

In considering the building of a console table for the parlor, reception hall or other room not provided with mantel or fireplace a little thought should be given to its most favorable location. Very frequently the wall space between two side windows is an excellent situation for it. Should there also be a front window to throw light on the mirror the impression of much more light and brightness will then be conveyed. The home should be a reflection of the occupants. Many a remark is made: "Jones' house is always cheerful and cozy; I like to go there." Why? No doubt Jones gave some thought to the proper places for windows to let the good light and air do what nothing else ever did in place of it.

Two drawings of consoles are offered in Figs. 169 and 170 of the illustrations. Fig. 169 is visibly portable, while Fig. 170 is constructed in such a manner as to be set flat to the wall and there fastened, after having cut away the surbase for perfect contact with the wall. Both are within the space of 35 x 87 inches, although this is optional, the point being that of the proportion shown, or rather to have a decided mirror surface of an elongated form and that the top reach to the top of the window cap, thus forming a close relation with the picture mold and the general trim. The two patterns, it is hoped, will represent a modified type which will not disturb the general plans of a modern room. Fig. 170 will fit into a room to better advantage than Fig. 169, should the furniture be all of a smooth, highly finished character. The design shown in Fig. 169 partakes more of the nature of the prevailing trend of the modern style. In Fig. 169, as well as in Fig. 170, the stiles reach to the floor and the framed panel under the shelf is set in by dowels as would be a rail. A careful selection of grain is an important feature in the paneling as well as in the upper portions. The lower shelf in Fig. 169 affords a place for a much prized urn or other object of art,

while one of the many handsome clocks to be had may with propriety be placed on the shelf before the mirror.

Rooms not supplied with overhead lights make it desirable to provide side candle sconces for ornament and for festive occa-

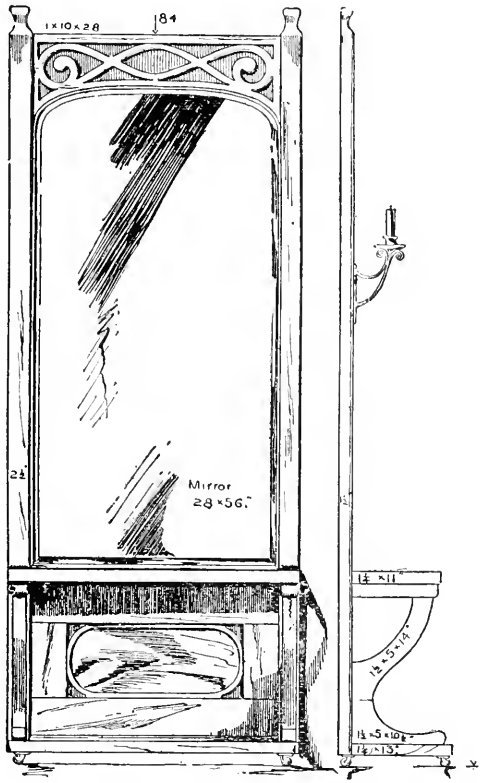


FIG. 169.—Portable Console Table.

sions. The treatment of the top rail is offered as the nearest approach within the range of the carpenter short of carving, which generally finds a place on such a surface. The panel consists of ½-inch background, upon which is glued ½-inch fret work panel, as suggested. This in turn may be worked upon to all

appearances like carving by rounding off the edges and making clear the scrolls, at the same time treating the design as inter-

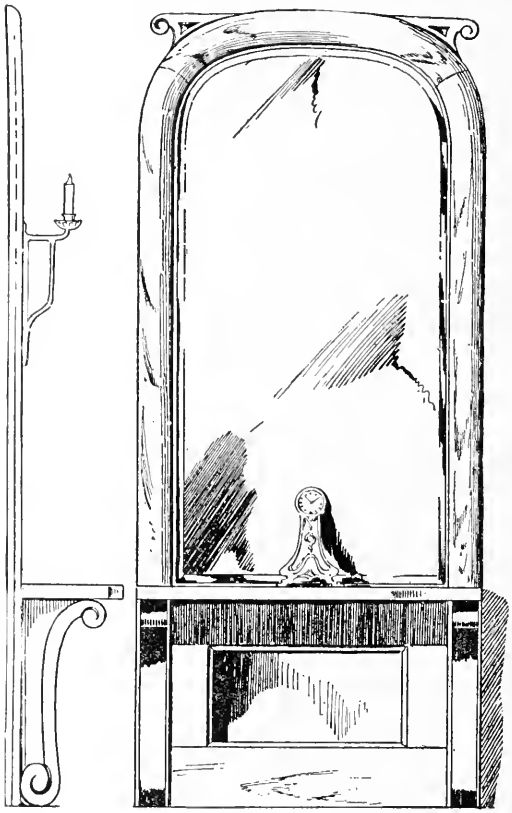


FIG. 170.—Fixed Console Table.

lacing straps, then in the after finish leaving the background a dull finish.

To the person executing such a console the mirror will be the main item of cost, but will be small in comparison to the value of the piece completed. Herein the craftsman has the advantage of surrounding himself with many objects at very little cost when the labor is not reckoned. The plate glass in the pattern

shown is 28 x 56 inches, with beveled edges. Instead of inserting this within a rabbet provided for it from the back, a rabbet is cut on the stiles and top rail and filled in with ⅜-inch lining, after which the console is completed and finished. The glass is inserted from the front and set against the lining and a neat small molding is then pressed along the edge and securely bradded. This, it may be remarked, should previously be finished.

The proportions and finish given in the pattern shown in Fig. 169 will properly apply to Fig. 170. The bracket or console supports consist of a 2-inch center, with ¼-inch scroll pieces glued to each edge and finished smooth on the front. The shelf has a slight ogee front edge. In making the stilted round to the top a felloe joint should be made, as a lap joint in the after rounding would not look as well. It will be noted that the inner edges of the stiles will require adding to somewhat below the joint in order to secure the finished arched line. The final rounding and smoothing over this joint should of course be done after the frame has been fitted perfectly and glued up tight: then, and only then, can be secured that complete "oneness" of line and surface which is embodied in good furniture. The projected scroll ends may be an after application.

The Umbrella Stand

It is an old saying that "all things come to him who waits," but many acquire "things" after they have secured the puchasing power. The handy man's wife acquires many articles after patient waiting on her husband's ability to "just get around to it." The umbrella stand, while not of vital importance, is not the least of many articles that some day we will get around to having. Meanwhile in the more pioneer days of home building the corner of the wall in the hall supported the umbrellas at various unsightly angles. For the large family the pattern shown in Fig. 171 will fulfill all requirements.

The perforated center adjoining the middle post is cut from one length of board and the edges doweled and glued to each side of the post and flush with the front face. To the outer

edges is secured the back part, as shown, entering the block corner seen in the side and front views. Before the divisions are

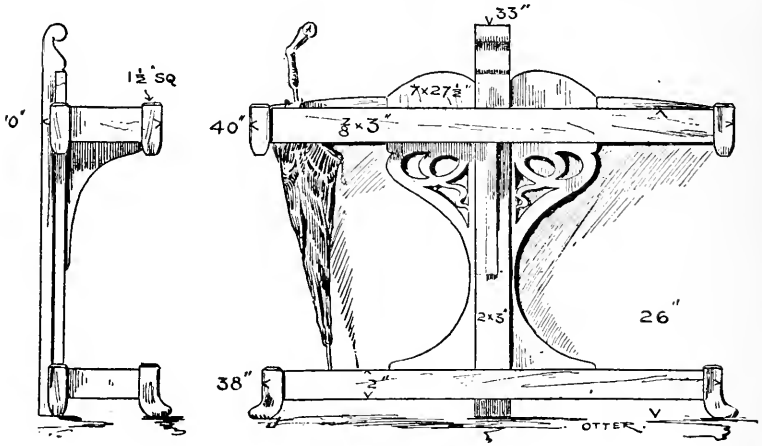


FIG. 171.—Umbrella Stand for Large Family.

placed a ½-inch batten should span the back part across the front of the post and between the back corner blocks, being glued

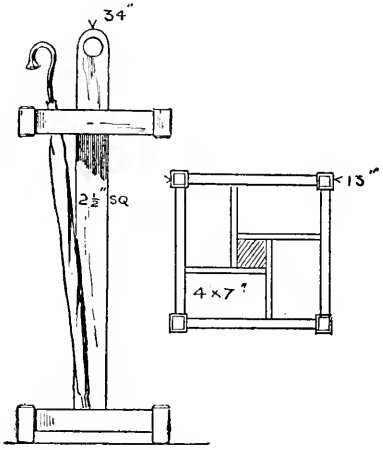


FIG. 172.—Small Umbrella Stand.

and firmly secured to each piece by brads. This will insure greater strength for the four-part back. The bottom of the base

is floored and may be zinc-lined, or the bottom may have grooves running to the center hole, in which a pan is placed to receive the water that may drip from the umbrellas. Inasmuch as umbrellas properly cared for should be opened out to dry, pans in the homes are hardly needed. Fig. 171 is planned for four compartments, but its entire length may be shortened for three openings if desired. For a small stand Fig. 172 will be found serviceable to go in a certain corner. The arrangement for the top is the same as shown in the plan, compartments being built around a 2½-inch square post and the sides set in 1½-inch square blocks with chamfered edges. A dull oil finish will be found most satisfactory to apply to this character of furniture.

Chairs

"Well, sir, I am ready to sit down in my easy chair when supper is over," is the thought so frequently expressed and quite uppermost in one's mind as the transactions of the day are closed. With the older people a certain chair is often appropriated and in time becomes closely identified with their life, the much-used chair becoming more and more cherished and guarded as it is passed on from generation to generation. Of such chairs there are not a few examples which are today considered models in the directness of their construction. It is an exception that an antique chair is comfortable in which to tarry long, this important feature being noted more in frames which were almost wholly covered with upholstery material. In this there was greater latitude to secure comfort than in a plain chair, the lines of which were formed in the most direct way permissible with low cost and a meager equipment of tools and machinery. Today wood may be converted into many varied shapes; curved, serpentine and twisted forms being as easily produced from a minimum amount of stock as a piece of tin is in one's fingers readily made to assume any shape desired. Steam, as the means of softening wood, with modern metal forms and presses make it possible to produce in a chair of general utility a graceful line and proper balance, particularly to the back post. An illustration of this is shown in Fig. 173, which represents a very old and

common type of rush bottom rocker, many of these being made by the farmers in winter time for their own use or local sale.

Note the relative position of the straight back post to the rocker. To give the proper balance and appearance of a substantial base, the posts should curve back immediately under

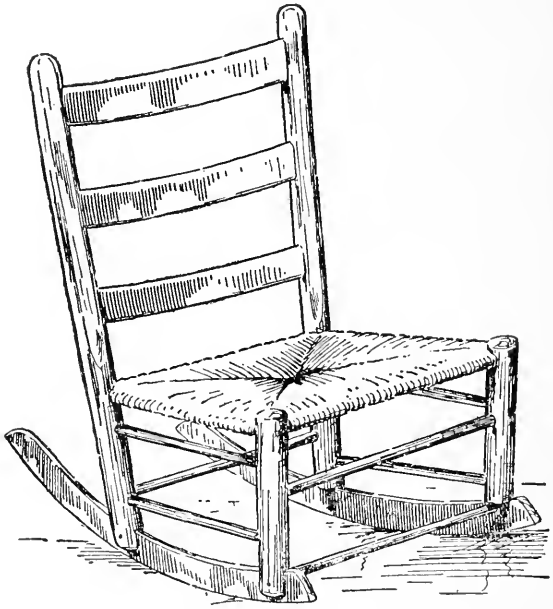


FIG. 173.—Early Settlement Rocker.

the seat and have connection with the rocker some distance back. The straight back post required that the back be more at right angles with the seat, which robbed the chair of the comfort and easy balance which the modern bent or curved post rocker possesses. However, this type of rocker was the original of that class of chair which is distinctly American, and little attempt was made to alter nature's material form.

As these rare examples are less seen we cherish them the more, as we think that before the early men of the country in building their homes were able to take their stiff-backed ease they were forced to lay aside, for seasoning, stock of simple form to con-

struct their chairs and other furniture, and also at a certain time of the year, to gather from the fields and low marshes the rush or flag for the chair seats. In the meantime the bench, or form, did service, as well as other smaller and less unwieldly forms, such as the hassock and stool.

The ordinary factory chair is built according to a certain standard of size and adherence to bevels. In the construction of a chair for individual use it should be very much like the suit made by the tailor—made to fit the individual. The regulation height of a dining room chair, or side chair, is 18 inches from the floor to the top of the seat, plain or upholstered, with a ¾-inch drop back of the seat. The angle of the back to the seat is usually 1½ or 2 inches, in 12 inches.

The top of the seat in the rocking chair is in height from top of rocker, about 11 inches in front and 10½ inches at the back leg or post. The front edge of the seat, when the chair is not occupied should not point up more than 17 inches from the floor. This is assuming that the rocker has a sweep which can be secured with about 5 inches in width of stock. A greater throwback, or angle, is given the back than in the stationary chair.

The rocking chair, unlike other chairs, must be made to balance properly and, when occupied, give a well poised adjustment to the occupant, as an even weight is to the contents on a scale. This must be determined by the maker by trying the chair on a level floor. Many have probably experienced the discomfort of sitting in a rocker which compelled them to dig their heels into the carpet to avoid going out in front, or to have the embarrassment of almost flying heels up over the back. Such an article of furniture among the young people is often considered in the light of a prize "trick mule," to be tried by the unwary as a part of the evening's amusement. The rocker, or "sweep," however, on many rocking chairs is often too flat, particularly on the very early chair of that type. The segment of a circle found within a plank of 5 inches width and about 31 inches in length will produce a rocker giving a comfortable swing when properly secured to the legs. Most any outline may be given to the top or concave edge. It is generally made to conform to the underline until it rounds off at both ends.

The construction illustrated in Fig. 174 represents a class of chair which the reader may construct without so many of the

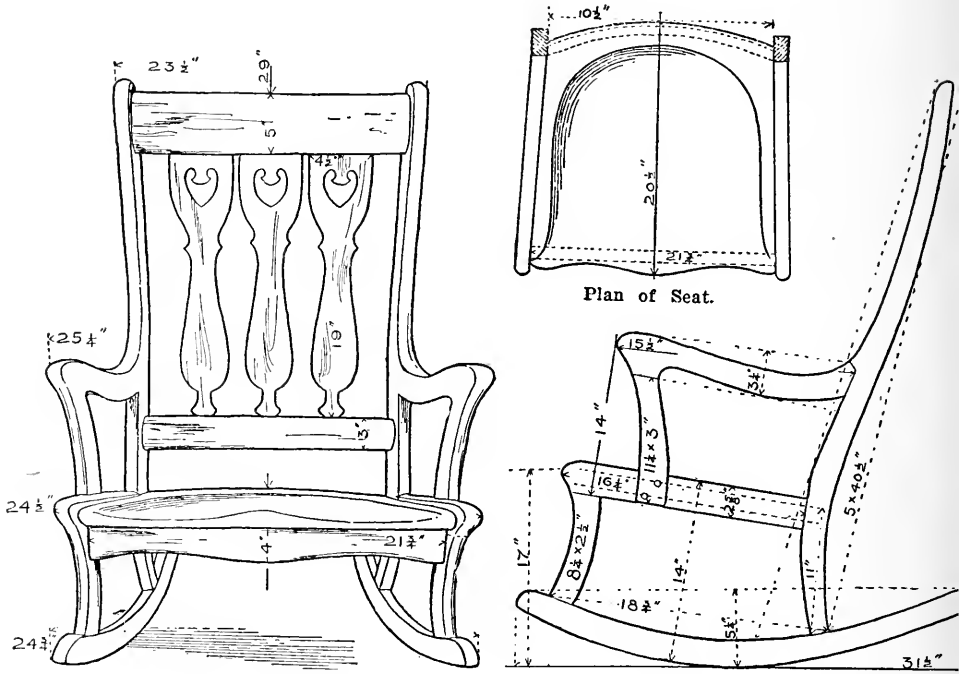


FIG. 174.—Front and Side Views of Chair.

peculiar features met with in regular chair construction, particularly that of the old turned class of chair, which requires much practice in dealing with the angles and the boring of round parts in order to have the work come out satisfactorily. Such a chair appears simple to make, but some amusing first productions have resulted when the carpenter or cabinet maker has completed a chair of turned parts. This is traceable to the fact that being accustomed to almost continuously working with square or bevel against flat surfaces, a new proposition is presented when he attempts to hold the tool and bore at the proper angle a part that is round and also bent. These points will not

be considered, as it means an equipment to be found nowhere but in a chair factory.

The idea of the illustration is to show patterns which may easily be constructed, or modifications of them made by the carpenter, to have and to hold, making his home characteristic and representative of his handicraft. It is well in all work to at first draw the subject to full working detail, laying out on separate paper the plan of the seat taken from the figures given in the illustration. From this proceed to draw in the elevation of the back part, one-half only being necessary, to the left of the center vertical line. In order to create a chair which will be comfortable a certain amount of curvature should be given to the two slats. This can be done very readily when the slats are not too wide faced by sawing on the band saw, or by adzing, that curvature which can be secured within, say, 3 inches on stock. In this case 5 x 25 inches for the top slat, allowing a thickness of ¾ inch to the finished curved panel. To mark this out make a paper pattern within the limit of the gross size of the stock. After drawing in at the proper position the shape of the top and bottom slat, proceed to detail the shape of the slat or small banister.

It must be borne in mind that in most all chairs the spread of the back part of the top is greater than at the seat. In the case of a long chair, 2 to 2½ inches greater will offset a contracted appearance. For the same reason the slats should be correspondingly parted at the top more than at the bottom.

It is expected that the band or jig saw will be brought into use in cutting these irregular shapes, although simple modifications may be made thereby. In the absence of these most convenient machines outlines may be produced by the slower means of a draw knife on the outside and with hole borings and filing to effect some kind of opening within, as a feature. To construct more intelligently, a side-view detail should also be drawn, and from this mark out patterns, which may be transferred to the proper pattern paper. In doing this one will have absolute correctness of measurement and true relation of back to front part and position of rocker. As previously mentioned, the rocker

shape is to be drawn in its relation to the posts, within stock of 5¼ x 31½ inches. This position of rocker to seat height, as before noted, will not be perfectly correct, but approximately, until after the chair has been finally set up, and if upholstered that weight and the height of the back will indicate an after-adjustment of the back or front post height to a comfortable balance when the chair is occupied.

A shaped-out saddle seat is a very desirable form and may be set within the seat framing of the chair shown. The stock is thoroughly dry before jointing, and if oak is used the careful matching of the quarter in a favorable manner before gluing will add much to the appearance. After removing from the clamps, surface to a thickness of 1⅜ inches, then band saw to the outline of the marking-out pattern, made for the purpose out of heavy drawing paper. This pattern should also have cut in it a fine slotted line, which will mark the turn out of the interior shaping in the front, and the curved shapes, as shown in the back of the seat. Under the bottom of this plank temporarily secure with short screws a 1 x 5 or 6-inch block, which is intended to set in the jaws of a vise while carrying on evenly the work of scooping out the upper surface of the seat.

As the greatest depth of the saddle will be ¾ inch in the back part, be careful not to use screws entering the wood too far. The roughing-out work is done with a mallet and a 2-inch gouge, reducing the surface in a dish-like manner, along the sides and back to within ⅛-inch of the marked line, and to a depth thought to be more effective. The middle and front edge of the seat is left uncut, and from the straight line previously centering the seat the wood is cut away in a sloping manner on each side, leaving a crown or "pommel," suggestive of a horse saddle. Now strike off the front edge, sloping away into an easy undefined round, which when finally shaved off will be smooth and congenial to the touch.

No tool in the regulation carpenter's outfit will be found practical in finishing this roughened-out undulating surface, and for this purpose the chair builder has a tool peculiarly his own, the construction of which has been fully described in Chapter II

under the head of Stock Dresser's Scraper, and Details of Spoke Shave. The tool there described is the straight scraper; a tool having a convex cutting blade and holder may be made in the same manner, and the tool will be found very useful for more purposes than seat finishing. The convex shave, made with a similar curve, is first used to remove the ridges of the gouge work, and may be used to reduce the surface to a fair condition. Then the convex scraper is taken up for final smoothing and working to a perfect clear edge along the marked outline. A little after-nursing with a steel blade, the edge of which is convex, may be used in places where the handled scraper cannot be used advantageously. In sandpapering use No. 1 and No. 0 paper under the palm of the hand, or under a soft rubber block. Avoid destroying the well defined line along the edge, but smooth off well the front edge. Carefulness in creating such conforming work will be well rewarded in after polishing.

As the work proceeds it will be noted that in adjusting the rocker immediately under the side rails their extreme spread at the back, regulated by the side plan, is less than in front. This fact will cause the out-turn of the back post to set over the rocker, with rear outside and front inside corner hanging over. This is to be chamfered off to the thickness of the rocker sweeps. The joints in this chair are all mortise and tenon, with the exception of the arm and stump, where dowels should be used.

After the chair has been knocked down for final gluing-up, go over all the edges, taking off all sharp corners. The top edge of the arms, front edge of the arm stumps, side rails, legs and back posts above the arms are to be shaped a low round. The proper time to do this is after the chair is glued up, in order that a continuous smooth surface may be worked over the glue joints at the arm stump and where the arm enters onto the line of the back post. The edges between these joints may, of course, be molded or shaped more readily in the vise, as loose parts, leaving enough stock at the ends to trim after gluing.

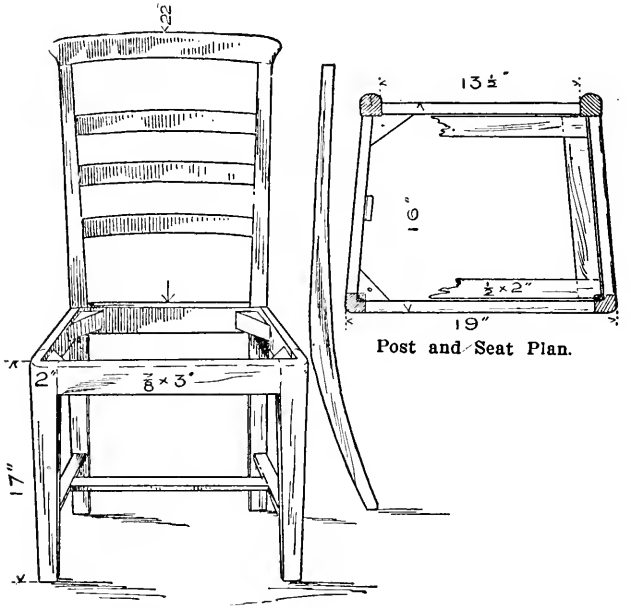
The Dining Chair

So much attaches to the moments spent about the dining table that the chairs used for the family should be of the same pattern and of a dignified, plain character, the outline free from unnecessary angles and the surface smooth and plain. If carving is desired it should be of a detail clear and smooth, and low relief. With these particular features observed the dusting and polishing from time to time is greatly reduced. The chair made by the famous cabinet maker, Chippendale, had these desirable points about them, even on the open worked-backs. The carving and rounding of edges, front and back, were smoothly done and easily kept clean. These chairs afford models for many present-day reproductions.

The pattern in vogue in the early Dutch colonies of New York gives us excellent types for dining-room purposes. The construction of the earlier patterns are even more severe and to the point than any period before, and later the style shown with more elaborate treatment preserved the honest square-lined construction.

For purposes of simple construction, Fig. 175 is given as a composite of the Dutch and the English style which prevailed at the same time in the New England settlements. The "ladder back" is probably more easily constructed and more comfortable to sit in, although the lower slats may be left out and a 7-inch banister inserted between the under part of the top slat and the projected base on the back rail. With the seat plan given and shape of back post, as shown, a drawing of the entire chair may be made. In doing this one may be guided in some particulars, as in securing the back angle, spread of legs, etc., by a well constructed chair about the house. The front legs have a slight taper. As to how much this and other matters of finish shall be carried along must be decided when the chair is set up loosely for a trial inspection. The rounding of the back posts on the back, as shown in section on the seat plan, Fig. 175, is recommended as giving a smooth finished appearance; also a similar rounding to the back edges of the slats, which are $\frac{7}{8}$ inch thick, rounding off the front face with a low round.

A padded slip seat cover with leather is most desirable, as it wears well a long time and can easily be renewed. The frame



Post and Seat Plan.

Front View.

FIG. 175.—Construction of Frame of a Dining Room Chair.

to this consists of ½ x 2-inch material, lap jointed, glued and nailed into a frame, giving a 3-16-inch allowance all around when set upon the corner and side block shown in the engraving.

The upholstering of this is very simple, consisting of burlap webbing stretched tightly over the face of the frame, upon which is laid cotton batting, with several extra squares built up in a tapering manner toward the center. This mass of cotton may be held and molded into an arching shape by stitching with thread and needle, making long stitches in so doing, sufficient to keep the cotton from shifting. Over this is stretched the leather, cut sufficiently large to pull down along the edges of the frame, or what is now over the burlap webbing. Starting the tacking from the front, pull it back, meanwhile rounding or con-

forming the surface, and secure to the back edge. Then tack down the sides and trim off the surplus leather on the bottom edge of the lower framing. By the allowance made on the frame with added thickness of burlap and leather the framing should slip in snugly against the chair frame, where it is held by screws driven from the under side of the corner blocks. Note that the inner corners of the legs are to be cut out ½ inch deep and on an angle with the inside of the front and side rails. The straining rails under the seat are ⅝ x 1⅛ inches, set in with tennons to the front legs and back posts.

Rush Seats

It is rare to find an old-time workman who is able to make a "rush" or "flag" seat. Where such work can be secured this form of seat will be found very durable and artistic to embody in the frames of chairs. The removable frame, or the manner of constructing it for the chair desired, will be furnished by the worker in that material.

While chair designs are endless, the main purpose of utility and comfort should be the first thought. With a carpenter's ability, many odd pieces and side chairs may be constructed, embodying some rare wood or treasured piece of stock having eccentric grain, or mayhap some rare old large piece of furniture which has so sunk into decrepitude that a chair or two may be constructed, thus continuing its service and history.

CHAPTER VII.

SITTING ROOM FURNITURE

STYLE and fashion in everything is presented for our inspection and in a great majority of cases we adopt them. Some people are ever on the lookout for that which is new, but others climb into the wagon after the "tailboard" is up, so fearful are they of being left behind in the procession of things and events. It is true we cannot divest our home of furniture as we would lay aside a three-button coat for a four-button furnished with slant pockets, but in considering the "modern" class of furniture, or rather the going back to the simple style, it gives us an article of furniture which we are not so likely to have supplanted by a flimsy trifle. Certainly the family sitting room table should have a sustaining dignity about it which the furniture of bamboo or Shakespeare class of table heretofore never possessed.

Very little additional information need be given for the table, Fig. 177, in the simple style. The plain posts and under framing are laid out on a drawing in a square of 21 x 40 inches, having the posts center along two intersecting diagonal lines, the open or top rails being mortised into the posts about 4 inches under the edge of the top. All edges should be chamfered 3-16 inch and just above the taper of the posts treated to a saw kerfed line, also chamfered to give finish. The top should be carefully matched from 1 5-16-inch lumber. Allow for the height of the table 30 inches to the top either with or without casters. The fumed oak finish is undoubtedly best for this much-used piece of furniture.

The couch should not be a difficult frame to construct. Indeed, after the inspection of the factory-made article the craftsman may, with a little practice with pencil and paper, lay out

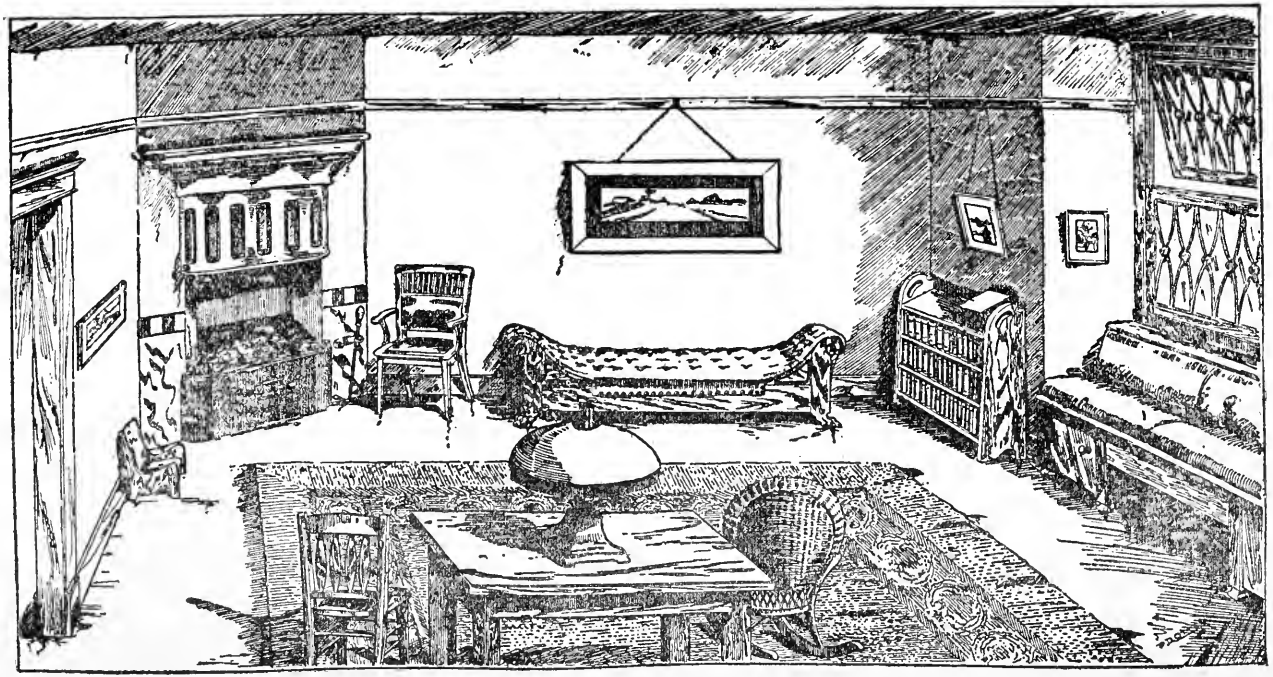


FIG. 176.—Interior View of Sitting Room, Showing Principal Articles of Furniture.

from observation a frame which will have a pleasing, substantial outline, yet have the joints all cut square. With this thought Fig. 178 is presented with the necessary measuring memoranda given thereon. The frame is within a size of 27

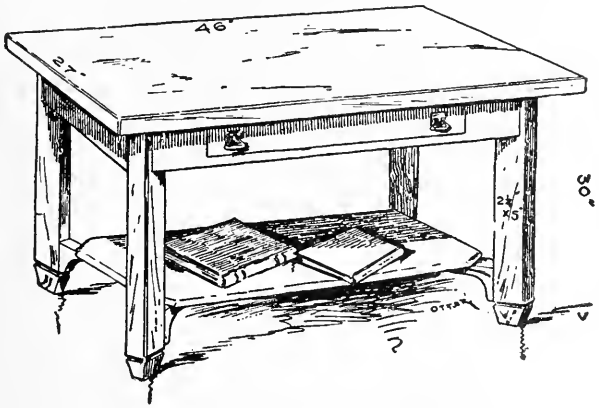


FIG. 177.—Sitting Room Table.

x 73 inches, making it ample in length for a "six footer," or generous enough for an overflow accommodation in the event of a surprise party. The head posts terminate in a claw foot, the main rails and foot rail are made of not less than 1-inch boards.

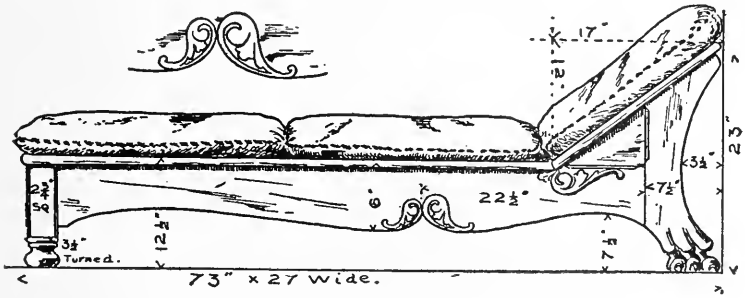


FIG. 178.—General View of Couch.

The shape given for head posts will come from a board 7½ inches wide. From a previously drawn detail showing the continuous character of lines in its constructed form procure the sepa-

rate marking-out patterns, and right here be mindful that with the cut-out paper pattern allow in the wood, in case of the line arching from claw post joint to the horizontal rail an excess of stock which, when the parts are glued up, may be sawed or shaved to the correct free-arching line. The union of parts in this way creates one of the pleasing features to attract the eye, and the eye following this line in fancy terminates in a foliated scroll as suggested, and in turn is met by a like, but less forceful, line springing from the foot post. In like manner, the inclination of head rest mold may have its abruptness folded up in a similar termination. The couch frame, of course, is to have the same treatment on the other side, for a one-side couch gives but one-half the number of positions in which it may be placed. A little consultation with the wife will often save a man doing some foolish things, even as to furniture, for the housewife tires of seeing her possessions always at the same angle or on the same side of the room. The fullness of the clawfoot is made by gluing on a 2-inch block, the upper portion of which will, by sawing or shaving, invisibly shade in a natural manner into the post. As treated in a previous article, no set directions can be given for cutting or carving this claw; the carved claw is now very much in evidence, and, as in everything else, a careful inspection will aid materially in producing a good effect, even with the chisel or gouge in use by the carpenter. The claw as a termination is selected, for with the inexperience of an amateur in carving the necessary unevenness and roughness will, by contrast to plain parts, make a pleasing feature. A rough claw is better than if it were produced from a turning lathe, if that were possible. A pleasing effect, in place of carving the ornaments on the side of a couch, is to jig saw the patterns detailed from a 2-inch block, then by passing them along a set straight gauge slit them on the band saw into frets 3-16-inch in thickness. Glue these along the proper line and direction, and after sanding the edges a very pleasing form of relief will result.

The foot posts are 2¾ inches square, with the three exposed corners chamfered. A turned ball 3½ inches in diameter gives a finished termination. The head end rail, 6 inches wide, is

placed in line with the side and foot rail, and then paneling or veneer occupies the space between that and the inclined frame. The molded effect along the upper edge of the head support and rails may either be a narrow framing surmounting the construction or a molded strip secured as an after-finish.

The form of upholstery shown in the cut is now very generally a part of the simple class of furniture and stands for just what they are—bags, made in a primitive manner, filled with soft material. Here again the craftsman of today will be equal to the occasion and find little that requires special skill in mak-

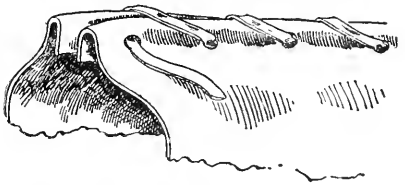


FIG. 179.—Method of Sewing the Leather Covers.

ing the cushions to fit his frames. Soft, pliable Spanish leather (sheep skin) in all colors may now be secured in many towns. Unnecessary expense may enter here as in everything else, and it would be well to make the selection by samples. The bottom cover piece may also be of the same color and grain imitation, but of pantasote or other substitute for leather. Likewise, instead of upholsterer's curled hair a half quantity with vegetable down may be used. It will be quite necessary as well as satisfactory to guard against waste and to find the exact size of leather to make a sample cushion one-half size of the couch body—that is, divide the couch into three pillows, using some cheap material, and cutting it ample to allow for pillow when filled to the width of the frame. The filling should not be less than 5 inches in thickness. From this bag material, if made to fill up properly, the exact size of the leather covers may be found, allowing more on these for ½ inch to be turned in on all sides. This ½ inch extra is turned and pressed or hammered

into a crease, and the two creases of the four edges of each piece are brought together, rough side in, then held for a time while holes are made with a belt punch about 1 inch apart. Through these holes, as shown in Fig. 179, a thong strip, cut from the leather, is drawn, and in the after-finish a second thong may be drawn, inserted so as to produce a cross-weave effect. One side of the bag is of course left open to receive the inner filled bag, or the filling may be put in direct and the thong continued through the holes and finally tied in a neat manner.

The Side Chair

This is a pattern in the modern style, appearing well as a wall chair, or making a good, light chair for the table. The chair would be in keeping with the present primitive construc-

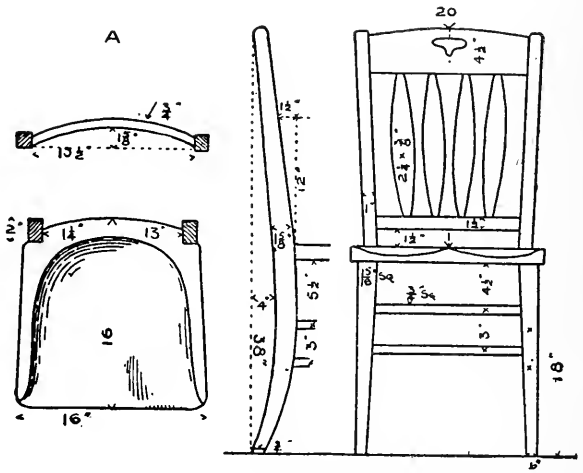


FIG. 180.—Details of the Side Chair.

tion to have the back slats perfectly flat, but a more shapely and comfortable back will result by using curved back slats, as indicated in A, Fig. 180. A flat panel is usually steamed and bent, but for special purpose the curve is produced from a heavy plank, using an adze, or in default of this a gouge and

heavy mallet, and after shaving to curvature determined by a wood template, used as the work advances. Much of the convex side can be planed to line and even thickness by holding the work in a vise. The back post shape may be secured from a 1-inch surfaced board. If oak is used show the quarter grain on the edge. In making the seat none but thoroughly seasoned stock should be used, and after the saddle effect is obtained it should not be unprotected by finish very long. As you will need a heavy cleat, or batten, screwed to bottom, as a means of holding it in the vise while shaping the hollow, it would be well to keep it on during construction of chair and until time for finishing, avoiding chance of warping. The hollow work is roughed out by a gouge and mallet, and then convex shaves and scrapers are used to bring about an even concave surface; these tools have been described in a previous paper. After all parts have been fitted with tenons and mortises, assemble them to see that they all come together well, also to give you an opportunity to note corrections which might be desirable to make, and the final finish to be given each part. With the chair knocked apart the edges are worked off with a plane or shave, and the four slats in the back are greatly improved with edges turned off to a quarter round, likewise top edge of top slat, and hand hole smoothly filed in a rounded manner. The back part is glued up first and held in bar clamps under the seat; two square stretchers should be fitted at the same position, as shown, for front stretchers. The side stretchers are indicated on the front leg. The seat is now set in, as shown on seat plan, and secured at each post by a 2½-inch screw countersunk. Turning the back part down, with seat face do vn on bench, put on the front portion of chair, the legs and front stretcher having previously been glued up, then provided with the side stretchers glued to legs and treated with hot glue in motise holes of the back posts. Drive these in them, gluing the seat motises; drive into place the legs. In this class of work—open and liable to spring out of true—it is well to have rule, or truing stick, to immediately square the frame before the glue has positively set, the bar clamps sometimes being brought into good use, to pull into place

a refractory part. When the chair is well set, cut the back post at bottom ¾ inch to give proper inclination. Clean off any excess of glue and hand sand from top to bottom, taking off any crude edges.

An arm chair to match this pattern may be constructed from a drawing making the size of seat proportionately 2½ inches larger than called for in Fig. 180, and the height 22 inches, between arms 19½ inches and the height of arms 10 inches from seat.

The Sitting Room Rocker

Our foreign friends say of us that we show our restless spirit even when supposedly at rest in a rocking chair, purely an American article of furniture. However this may be, the rocking chair is finding favor in many foreign countries, and among our makers it is the style of chair most made and given the widest range of treatment. In constructing the rocker the main object sought should be the proper "hang" or swing. When attention is called to this it will no doubt be realized that many rockers have the annoying fault of pitching the occupant too far forward or backward, with no particular middle point of restful balance. The location of this fault will have to be determined by the maker, and in some cases it is much like making the suit to fit the customer to give perfect satisfaction; usually the lack of balance is adjusted by removing the rockers and cutting either the front or back legs, as indicated by rocker either throwing the occupant too far forward or backward.

The rocking chair shown in Fig. 181 will be found a very comfortable resting place, even though built with flat back slats, the comfort being given principally from the generous curve to the back posts, with exception of slats in sides and back, the material is 1 inch in thickness, the slats ½ inch thick, arms and rockers should be 1¼ inch thick, also the seat frame. The seat frame may be made of an inferior wood, the front and back edges will be covered by upholstery. The plan for the frame, also that of rocker and arm will be found in Fig. 182. The upholstery may be put on directly over the seat frame,

as shown, or the style of leather bag described under head of the sitting room couch. In either case, burlap bands are tightly

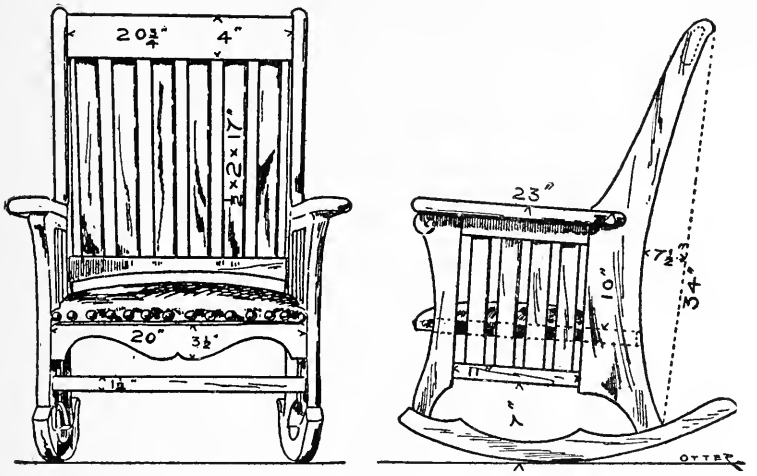


FIG. 181.—Front and Side Views of Sitting Room Rocking Chair.—Modern.

criss-crossed over the opening this being done on top of the frame should the loose bag pillow be preferred. If the permanent seat is desired, the bands are tacked to the under part of the seat, upon which are placed for this size seat eight double coil upholsterers' springs, three back, three front and two in middle space of opening. As the subject of spring upholstery has been treated in Chapter XVI it will not be again taken up. An inspection of an upholstered seat will indicate the manner of going about the work, the even and partial compression of the springs, however, by stout twine

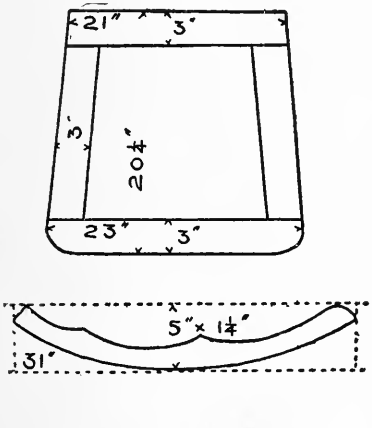


FIG. 182.—Seat Plan, Rocker and Arm of Rocking Chair.

is quite an important foundation work for the after-padding and overlay of leather or fabric.

The Clock

Even though it be the exacting alarm variety done up in a nickeled can, everybody turns to the clock. It is their faithful, almost animate companion, alive to the minute, yet weak and failing at times if we don't do it a good turn now and then. It is therefore well in setting up our home, or refurnishing it, to give the time keeper a prominent or high place in honor of his long service in keeping tab on our movements. Time was when the old clock had to have plenty of room to stretch, as it were, in the matter of ballast. This gave rise to the tall "grandfather" look it had. While it is true some kinds of the best modern clocks are framed in tall cases, with cords and weights, the desire is uppermost to economize space, and very reliable spring clock movements may be bought very reasonably, or the works of an eight-day clock may be transferred to such a case, to be discussed, as is shown in Fig. 183. Here the purpose is to utilize space in a tall case, which was in former times given over to the movement of the long pendulum and lowering weights.

The sketch may be followed out in the full drawing, or modified within outside limits as fancy or individual needs suggest. The back, instead of showing the wall, may be lined neatly with thin paneling; the lower front may also have a panel or glass door, protecting the magazines and books from dust.

The structural parts to be from 1-inch material, the shelves $\frac{7}{8}$ or $\frac{3}{4}$ inch thick. A satisfactory framing to the dial face would be of laid-up veneer cut a little less in diameter than the dial plate. This veneer may be made of successive layers of rotary cut veneer, built up to about 7-16 inch in thickness or, made of two 3-16-inch panels and three 1-16-inch veneers glued transversely, the outer veneer being first grade in figure, or quarter, and placed upright as to grain. The gluing together of these wood layers under favorable conditions as to high tem-

perature of the room, proper clamping or heavy weight pressing device will give a panel which will not split, as would a solid

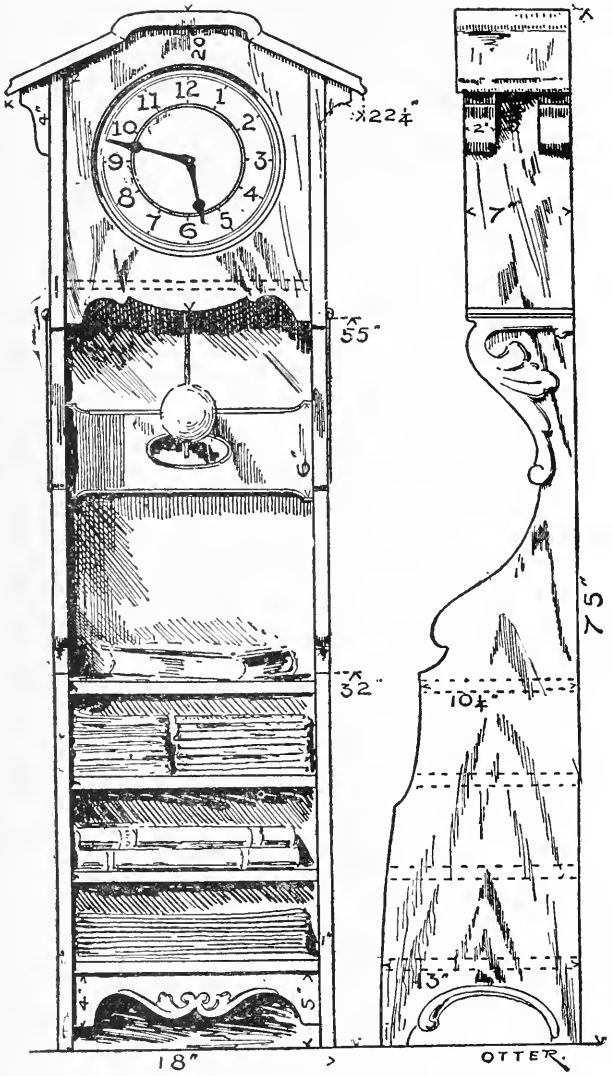


FIG. 183.—The Clock Stand.

panel, when the greater portion has been cut out, as in this instance of fitting the clock dial. The edges of circle of course would be greatly improved by rounding or chamfering. The fret ornaments are to be sawed out and slit to a thickness of 3-16 inch. These should be glued on to panels before outline has been cut. Then saw or trim to the exposed portion of fret, previously chamfering the edges with file or knife; and after they are glued on putting in a few vein cuts in middle of leaves will brighten the work very considerably.

Sitting Room Furniture

The sitting room first appeals to us, for it is here we go to be at ease, to read or chat in the relax hours of the day or evening. Some of later day like to see it on their building plans or speak of it as the reception room, but this puts it in the chilly class, and causes "the man" to feel less likely to be admitted—with his cigar and dressed in his easy clothes.

In order to deal intelligently with the subject it will perhaps be more interesting to offer a suggestion of each room, and to this end the general interior view shown on page 158 has been prepared. This, taken in connection with the details which follow, cannot fail to interest those mechanics who are disposed to improve their opportunities.

The sitting room, or living room, should be all that the name implies—a room in which to truly live and rest, to draw cheer and fresh air from without through broad window openings; to provide ample artificial light by night, for how often does the good wife who represents the "purchasing department" invest in the lamp beautiful, possibly one of those "banquet" affairs something like a lone umbrella in a little topply stand, stiff and formal, with its pretty red silk skirts, absorbing the light? This gives a reason for "Pa liking the kitchen to go over the newspapers."

As the carpenter is generally accustomed to doing work "on the square" it is fortunate and befitting that no great departure from the path of rectitude be suggested, for as indicated in these

pages the Mission style, has been favorably received. This "style" and its more pleasing modified forms in the later "Arts and Crafts" and "Modern Arts" are within the range of every joiner other than cabinet maker. Despite the present pronounced favor in which this clean-lined furniture is held there is little reason for the present-day craftsman, with modern equipment, repeatedly executing all kinds of furniture in that severely rigid manner. The form and generous proportions may well be adhered to, or, we will say, take the pure type of modern Mission, so-called, and soften it down on edges and corners, and we would have a much less dangerous piece of furniture to stumble against in the dark. There is too much evidence of 3 x 4 inch and scantling effect, which is hardly consistent with our rounded-out way of living.

As the window seat shown in the illustration is simply a suggestion, its construction must be determined by individual requirements. The height, however, can be definitely set at 16 inches, and this with soft, well filled leather bags to bring the seat height to 18 inches.

The under part should not be lost space, but should do duty for lockers or drawers. In building such a piece of furniture the aim should be, whether it is portable or fixed, to maintain its harmonious relations with the architectural treatment of the house. A pleasing change may be given in the doors of the lockers or cupboards, when the general wood trim is of a plain character, by having a three-ply laid-up door, with a good marked figure or quarter panel without molding trim. In making the veneer the two outer panels should be placed transversely in grain, with a thin veneer intervening, the three pieces being glued under heavy pressure in this order.

The book shelf shown in the picture needs little explanation, as it is a matter of easy construction. A slant top freed from everything but the big dictionary will be found very convenient. Where there is a large and growing family the medicine chest and the dictionary should be in a free position to which to refer quickly to repair our physical and mental condition. Undoubtedly the modern system of "elastic" book shelves is the

best solution in caring for books, as they are in units and dust proof, to be added one to another as books and the means increase.

In Fig. 183a of the smaller illustrations a fireside seat is offered as a novel form of rest furniture not seen in the show windows, its chief feature being its substantial character and the low and

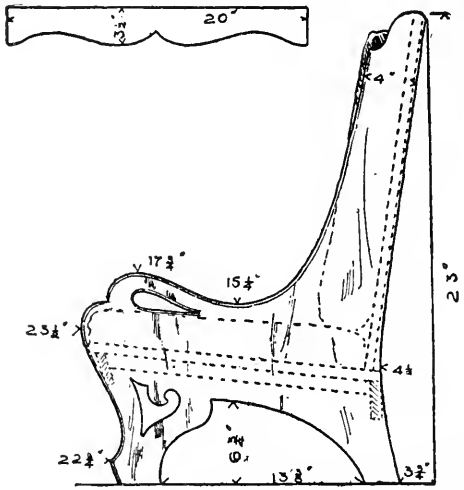


FIG. 183a.—Fireside Seat.

slanting position of the seat to the floor. It measures to the top of the frame 9¼ inches at the back and 11 inches in the front. The entire structure is from 1-inch stock, or, when surfaced, ⅞-inch thick. Careful selection of wood as to figure, markings and jointing is very important in patterns with broad, plain surfaces. If maple, birch or mahogany is used the smoothness of the work in the making is amply compensated for in the effect of the good after-finish, whether in dull or usual polish treatment. The side view that is shown is all that is necessary to detail in full a drawing, as the front view is 22 inches outside from floor to top. It is thought that from the necessary high and low points noted in the cuts sufficient guide is afforded to prepare the drawing of the side. Do this in a free-hand way, not hestitating to rub out and draw over until one feels satisfied

that the curves are good. When the drawing has been completed cut to the outline for a marking-out pattern. A side will make up from three 8-inch boards jointed in length and shape to more than cover the pattern. Be careful that good glue is used, fitting the joints previously with two or more dowels as a precaution. It is, of course, understood that the boards are rough or full thickness so as to dress ⅞-inch in thickness and perfectly smooth. After the sides are sawn and perforated to shape of pattern it would be well to glue and screw the 2-inch cleat upon which the seat frame rests, as shown in the illustration. The position of all detail will be before you on your drawing.

The seat frame is 18 x 20 x ⅞ dressed size, consisting of the rails and stiles of 3-inch widths, and as to filling, five 2-inch slats equally parted. It is a matter of opinion as to how the frame is made up, whether by dowels, lap joint or grooving. The two rails shown according to the cut are now made ready, one for the front rail, or apron, and the other in inverse position for the top back rail. Cut these to a 20-inch length and provide each end with three 7-16-inch dowels; likewise prepare a straight back rail of the same width and length. The sides, bored with holes corresponding to the dowel holes on the rails, permit the frame to be glued and set up under long clamps, after which the seat, exactly fitting, may be set over the fitted rails and along the cleats, which were glued to the sides. This may be glued and further held by glue blocks here and there underneath, fitted to angle of slanting front and back rails. The back filling consists of 4½ x 3-inch slats evenly spaced. Each of these may be provided with two short 7-16-inch dowels to fit the top rail, and the lower ends fitted and driven up to line, where they can be secured by brads. The edges should now be rounded off from top rail to floor, or they may be treated to a ⅛-inch bevel and smoothly sanded. The front edge of the seat should have a full rounding; also hand holds at top to be well filed smooth. The sanding stick illustrated in Fig. 78, Chapter II comes into good use on such outlines.

The cushions are very much like a leather covered pillow, and their construction has been considered on pages 161-162. The desirable finish for various pieces under discussion will be found in Chapter XV on Finishing.

It may not be out of place to state that the smaller illustrations represent articles of furniture slightly differing in design from those indicated in the large interior view, this being done for the purpose of giving a drawing with specific details and the same proportions, which will enable the worker to draw up in full outline the articles shown in the interior view if he so desires, and at the same time incline him to lean more and more on his own judgment and creative ability. There are many who are not only able to originate, but to draw up their ideas if they have proper standards to serve as a guide, and it is with this thought in mind that much time and attention has been given to the proper measurements and details of the work in hand.

CHAPTER VIII

FURNITURE FOR THE PARLOR

THE familiar caption "the parlor" has been used in the present instance, although the room it designates has been outdone in recent years by the more formal "reception hall," which is still another forbidden Eden to the tired man who pays all the bills. Surmising that the readers will be more at home in the parlor, it will be the purpose of the writer to surround it with substantial comfort rather than conventional flimsiness. Why the parlor in years past was considered more as a museum—"free only on Sundays and holidays"—was due largely to the furniture being made along lines most frail, and covered by upholstery fabrics most perishable, so that it was a foregone conclusion that no one but the minister and others not expected to tarry long were ever ushered therein.

The drawings accompanying this and the other articles relate to the modern plain style, but admit in many cases of using the proportions for variation of details and added ornament. In Fig. 184 is shown a view of the parlor with some of the leading pieces of furniture. It is reasonable to believe that with the good influence of the modern style there will not be a sudden return to over ornamented, badly constructed work, for there is too much honesty of purpose.

The Center Table

Fig. 185 with the legs placed in a diagonal position at the corners, offers a subject for practice in varying the outline in case this particular pattern does not strike the fancy. What is wanted is a balusterlike pilaster. Six inches will be found to give ample width for many outlines on the drawing paper, rub-

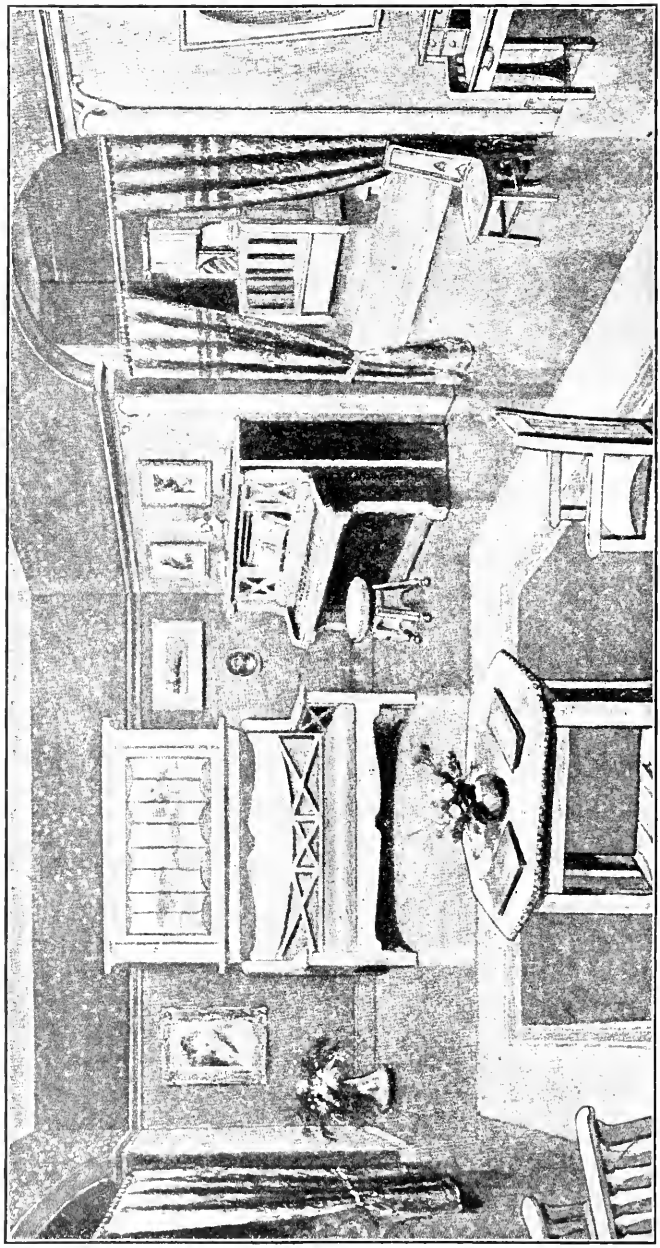
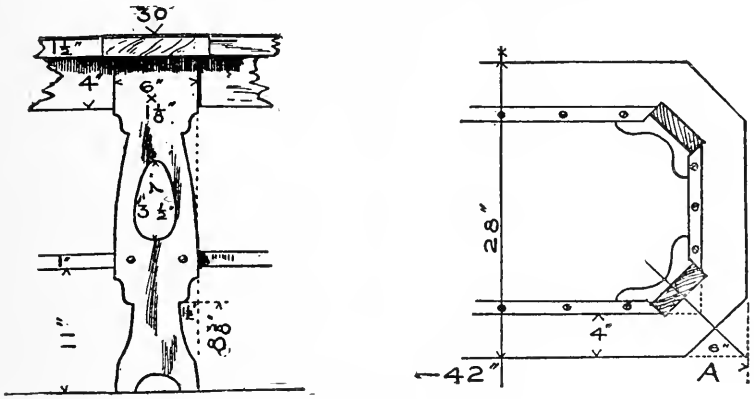


FIG. 184.—View in Parlor, Showing Articles of Furniture.

being out each effort until the proper combination of lines will appeal to you. The half plan of the top, Fig. 186, shows disposition of the posts at A. Great care should be taken in jointing nothing but well seasoned stock for top and undershelf and after it has been reduced to the proper thickness,



FIGS. 185 and 186.—Detail of Corner Post "A," and Half Plan of Top.

stain and fill before warping ensues. A decided chamfer on all edges takes away the crude, factory made appearance.

The Corner Chair

The parlor offers a greater excuse for pieces of furniture not classed among the most comfortable or back resting than probably any other room in the house. A creation which would come well within the category mentioned is the corner chair shown in Fig. 187, which has its purpose, however, in the general scheme of furnishing, and with the odd pillows about may, in a pinch, be made fairly comfortable. The size of the seat is 18 inches square, consisting of four 1⅝-inch square pieces mortised to the four 1¾-inch posts. The front edges are set back ⅛ inch from the face of the posts, allowing in this for thickness of leather or covering. There are many features which the individual worker may carry out with safety and after-satisfaction, but which, if carried out on a manufacturing basis, prove time-using

and expensive. The wide board used in the back represents stock expense and liability of many broken-off corners before the member is held in its own construction by gluing. If there be any charm in this particular piece to redeem it from its crude clumsiness it is in this bold underline and the relieving open work. The covering in such a piece, without much doubt, demands a good piece of Spanish leather. The upholstery webbing is nailed to the under edge of the frame and the five or six springs held down in a crowned form by twine while the top padding of burlap, hair and cotton padding is nicely molded to shape before the leather is pulled and formed over it. It is well to use no gimp in this, but double under the edges as they are tacked down. The conforming and holding the leather may be done with small tacks so placed that they will occupy spacing immediately under the fancy large headed nails used for the purpose.

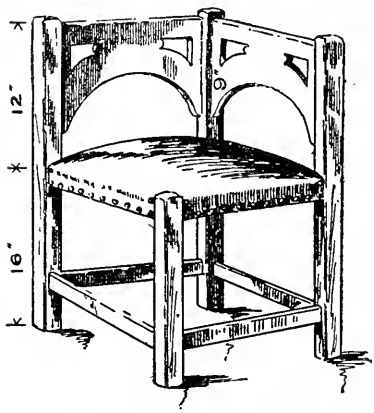


FIG. 187.—The Corner Chair.

The Roman Chair

The Roman chair, so-called, Fig. 188, is another piece of furniture used as a sort of filling-in rather than for comfort. It may, however, be elaborated and made comfortable by giving it a back-fitting curve in the back slat and the appearance may be greatly improved with either a band saw, adze or in other ways. Shape the back from stock not less, and preferably more, than 3 inches in thickness, keeping the thickness of the curve or serpentine shape 13-16 inch. While the particular sketch is in the simple class it is one of the forms of chairs which permits of varied treatment, and should any of the readers be given to carving as a pastime the proportions herewith indicated will offer a working guide for new shapes and opportunities for sur-

face cutting. The drawing of the front elevation is within a space of 27½ x 36 inches wide, and the distance between front

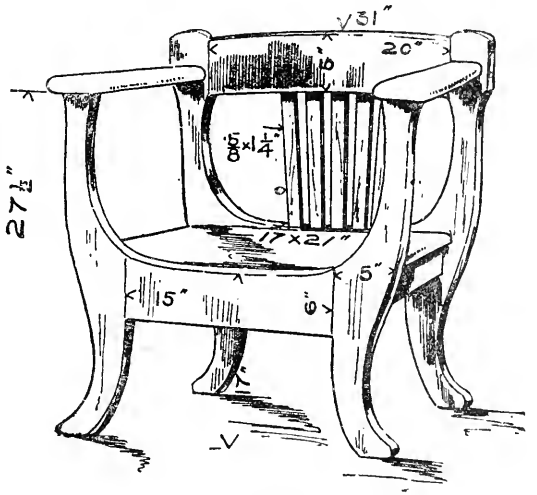


FIG. 188.—The Roman Chair.

and back frame is 17 inches. The frames are dressed to 1⅛ inches in thickness. Corner blocks should be glued and screwed in each corner under the seat. After the chair is set up and glued, saw off the back legs ½ inch at the floor in order to give the proper "hang." A bag cushion as described in another article gives an added finish, or the seat may be made 1½ inches thick and be treated to a deeply cut saddle shape, as dealt with on page 152.

The Writing Desk

Unless one has a "den" or retiring room the parlor or reception hall is a fitting place for a writing desk where every one, including the guest, may have access to the writing materials. In our life of today, made up of so much detail, the old-fashioned "lap" portfolio or writing box, is quite out of the question, and generally, from its portability, is not, when in a hurry, just where it is wanted. In Fig. 189 of the sketches reproduced herewith we show one so outlined that it will be in harmony with the severely plain or with the mixed class of furniture which goes to make up the furnishing of a parlor.

With the present-day craftsman's knowledge of fitting drawers and compartments the same general practice applies in providing all the necessary pigeon and cubby holes which experience has reminded us are so useful in disposing of answered and unanswered letters, stamp and pen compartments and other little details which will either please you, your wife or your wife to be; for I take it that a great many of the lonely young fellows who

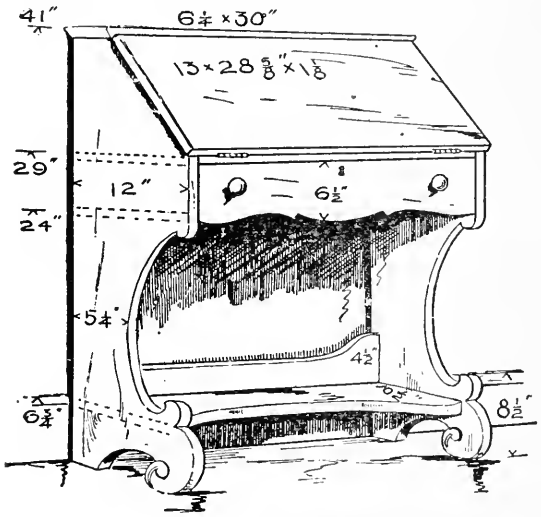


FIG. 189.—General View of Writing Desk.

see the home ahead of them will be ambitious to have the home furnished largely with their own handiwork, work which they can back up with a guarantee. The horse lover gets no greater pleasure in going over the good lines of his horse than does the man in fondly passing his hands over a well made article of wood work which he has made when the home was plain, or when shaping itself into an actual reality of home with the partnership of a wife and all the pleasure which comes from acquiring one's possessions piece by piece through the years.

The solid top constituting the rear portion of the writing surface back of the hinged fall is dressed 12 x 26¼ x 15/16. The open frame under the drawer is 11 x 26¼ x 15/16. The front

of the drawer covers its front edge as an apron. The drawer has a space of 4½ inches to the bottom. The lower board, 10½ inches wide, is cut away in a graceful sweep to a width of 5 inches at the center. Under this a stiff three-cornered batten should be glued as a support and also to prevent splitting of end pieces. The latter should be 1⅛ inch dressed, while the other parts, excepting the top, may be 15-16 inch thick. A ¼-inch rotary cut white wood veneer answers better than most any material as a filler for the back and is recommended for covering such surfaces inexpensively. Finish on both sides and it will avoid bulging. A chain or, what would be better, a knuckle-jointed brass rod or strip to hold the writing top to a level position should be fitted to the inside of each end.

The Desk Chair

This answers not only for a light chair at the desk, but does duty as the more formal reception chair, a seat for the visitor to drop into to say "howdy" and off again. The chair, Fig. 190, should be built of the same material as the writing desk and be treated in the finish the same. The total height is 41½ inches. The posts are cut to the shape shown within a 5-inch board dressed 1 inch thick. The seat is shaped within a square of 17 inches, and treated to a saddle surface as described on page 152. The height of the desk chair varies from 19 to 20 inches with the usual after cutting of the back posts ⅝ inch off level. Taper the legs from 1⅝ inch to ⅞ inch square at the

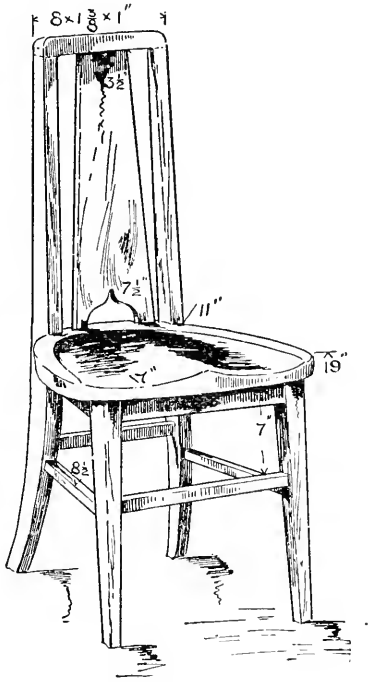


FIG. 190.—Desk Chair.

floor. Seat rails $\frac{7}{8}$ x 2 inches are then mortised to the legs and to the back posts as well as between the back posts at the rear. The distance outside of the front legs at the seat is 15 inches, and they are spread at the floor $16\frac{1}{2}$ outside to counteract the taper which would make them look "pigeon toed." These little points must of course be looked after by the maker and in the actual construction. Should they with this difference still look "pigeon toed," draw them out more at the bottom; herein lies the value of careful workmanship to so set the work up K. D. (knocked down) that the general effect may be seen and corrections or additions made to various parts when taken apart for gluing up.

The Settee

Time was not very long ago when the settee and davenport were thought of like the "white elephants," but now some people living in flats think the space none too small to accommodate a full size davenport. Come around at night, however, and the stately piece of furniture will be found working overtime, twice its width, doing duty as a first-class bed. Do not go into too many double-barreled affairs if you can possibly live in a house, or out in the country.

So with this idea our subject, Figs. 191 and 192, deals with something you can't double up or take apart, if properly made and glued. This too is offered as a model from which to prepare, if preferred, a working drawing, having a different back filling and arm treatment, the pattern shown being in harmony with types of furniture shown in the interior view of the parlor and also in the prevailing style of frames. It is true that many other pieces about the room of the conventional order generally in the home are of fanciful outline and surface treatment. This severe criss-cross effect in the back may put it "off key," and a more pleasing effect may be secured by filling the same space with $\frac{3}{4}$-inch square spindles spaced $\frac{3}{4}$ inch apart. This is mentioned simply to excite a little originality of treatment suited to individual requirements, because the subject of fitness applied to all things is worth consideration.

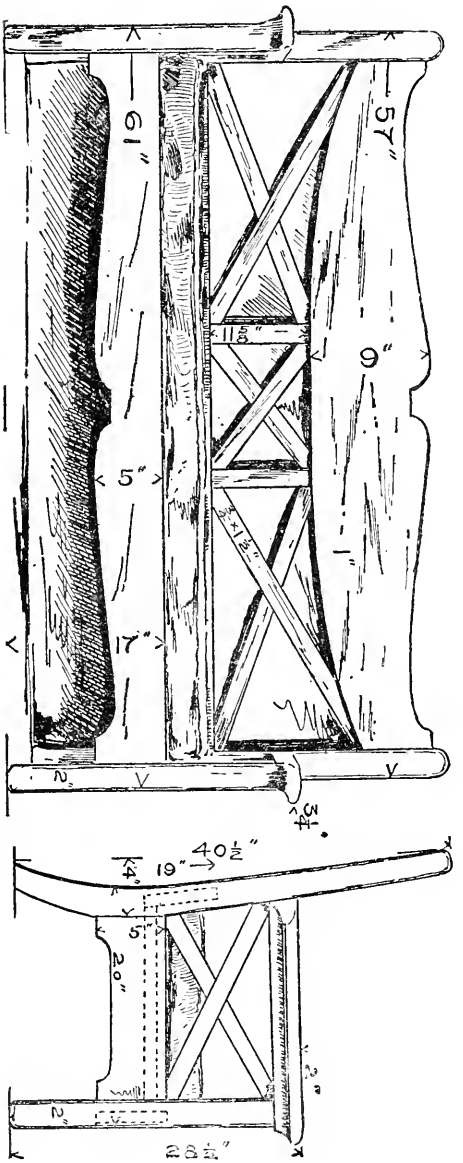


FIG. 191.—Front and End Views of Settee.

The general proportions of this settee call for a thick, soft cushion top in the nature of a one or two-piece bag in leather,

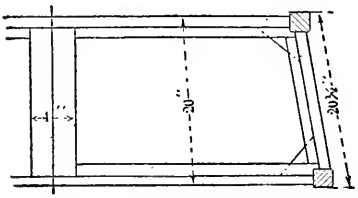


FIG. 192.—One Half of Plan of Settee.

corduroy or tapestry, or the upholstering may be fixed in the usual way. A long, loose seat, such as made by carriage makers, would look well, in which case this would rest on a panel seat bottom.

The Morris Chair

There is always one or more in the family who derive comfort from the Morris chair or some other form of adjustable back chair, while with others, like the tea or coffee drinkers, there is nothing so restful as the excitable rocker. When extreme comfort is sought for one may have to make a personal test before being thoroughly satisfied. In the case of the Morris chair the luxurious softness of the cushions allows almost any form to mold itself into a comfortable position, and therefore the contents of the cushions should be of the best grade of curled hair, with a mixture of moss, tow or cotton. The bag form of cushion, previously mentioned, is shown in the illustration, although the style of the cushion with square edges like carriage cushions is most generally used.

While dealing with cushions it may be said here that the seat cushion is supported either by a three-ply veneer panel tacked to the inner strip, shown on the seat frame, Fig. 193, or the same open space is bridged over by heavy upholstery burlap interwoven and tacked to strips and corner blocks. In tacking always start with and turn down a double thickness of the ends of bands to avoid stripping through the tacks.

The back cushion is supported by an open frame rack made of $\frac{7}{8}$ x $1\frac{1}{8}$ inch material, the frame 18 x $30\frac{1}{2}$ inches outside, with four $\frac{5}{8}$ x $\frac{7}{8}$ inch cross slats evenly spaced. The bottom rail is hinged to the back rail of the Morris chair seat frame, and the inclination of the rack is made by resting it against a $\frac{3}{8}$-inch steel or brass rod, placed in any notch on the bracket support shown on the rear of the chair.

The lower end of the back cushion rests on the rear end of the seat cushion.

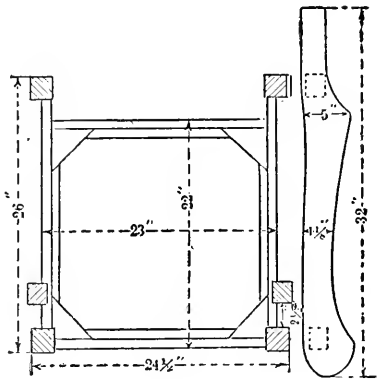


FIG. 194.—Plans of Seat and Arm of Morris Chair.

As to the chair frame there is a field of change of style from Fig. 193. Using the same seat plan create a different treatment under the arms either by square spindles or three or four slats or flat balusters under the arms.

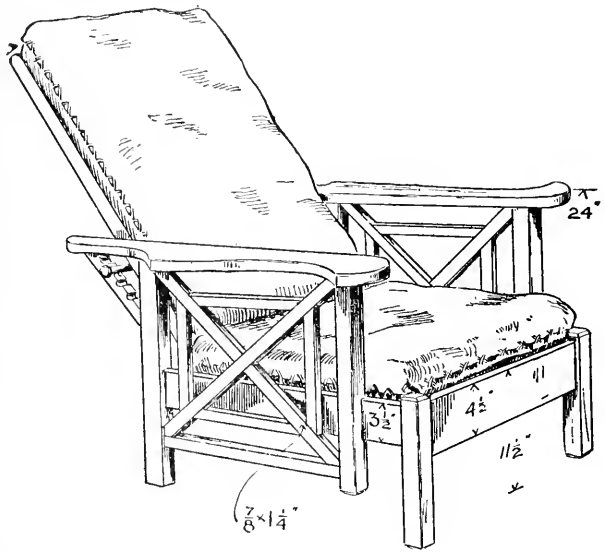


FIG. 193.—General View of the Completed Morris Chair

Following the illustration, the front and back posts and arm pillars are made of stock dressed 1¾ inches square, the back posts being finally cut from the bottom 1½ inches to give the chair proper angle. The side rails may be dressed 13-16 inch thick, and with the upholstery cleat on the inside of the same thickness they will when glued be very substantial. This is a matter of some consideration if more than one chair is to be made, as stock costs much more if requierd over 1 inch in thickness. After the chair has been tried by setting up, knock off all the sharp edges before the final gluing.

The Pedestal

As many people are debarred from occupying exalted places, due to many reasons, we often are obliged to go outside of the family to secure some effigy or bust of the great—a hero made famous after death—or perchance some one may bring into the warmth of his home a beautiful nude maiden chilled to marble seeking shelter behind a flowing gauzy streamer. Whatever the subject, it is either the expensive original or a copy of some reputable work and in consequence should have a befitting support. One suggestion of many forms which the craftsman may readily construct is shown in Fig. 195. Many patterns have little of the constructive element about them, consisting simply of feet, base, shaft and cap, all work of the lathe. What should be avoided is making the entire piece so small that it be ridiculously inadequate to apparently serve its purpose as a support. The elements of classic architecture suggest with little effort suitable pedestals and, indeed, no model could be better than a pure Ionic or Doric column.

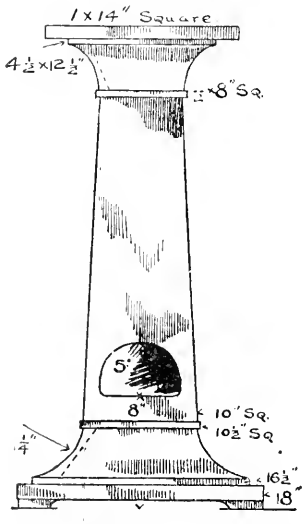


FIG. 195.—View of Pedestal 36 Inches High.

We are now very much in the time of veneer work, and if desired Fig. 195 offers the proper surfaces for veneering and of a simple character. The reader is doubtless familiar with the construction of the modern porch column, base and cap, so that little need be written. Should the decision be to make the pedestal a display of veneer, the construction should be in white pine or basswood. The shaft, top and bottom cove mold may be faced with a "crotch" adjustment of the veneer, or as it naturally is, selecting in the case of oak pieces of decided flake in the quarter. The fillets and edge of top and base look well with "cross band veneer"—a strip selected with good marking and cut from across the face of the veneer.

It would be well after the cove molding has been produced to saw these full length for the construction of cap and base, and before mitering face them with the veneer. To do this a rounded block conforming to the shape of the cove must be made as a "caul" or pressing block the full length of the moulding or of the part to be veneered. When all parts are in readiness the veneering should be carried to completion if possible, or if interrupted the work continued with all parts under like conditions such as the temperature of the room, consistency of the glue and even warmth of the pieces receiving the glue. This is all important, and a little experience will cause many to appreciate the importance of proper caution. Care and quick action should enter into the work, and other things being equal, the results will be satisfactory and lasting.

When much veneer work is to be done several large square pieces of felt ¼ inch thick are very desirable and quite essential when gluing to changing surfaces. A newspaper or thin sheet of zinc to prevent sticking can be placed over the surface when veneering the cove. The felt is then laid over this, after which the warm "caul" block and finally the flat supporting pieces on top and bottom before the jaws of the clamps or press are brought to bear. When the pressure increases the yielding character of the felt will press the veneer into any slight change of surface. If great care is maintained in the process of mitering and fitting the shaft the veneer may be applied to the stock first.

The top and the frames which constitute the fillets top and bottom are of course faced with veneer after the frames are made. The half oval opening may be "floored" and used as a place for card receiver.

Details of a Music Cabinet and Folio Case—Disposition of Music Records and Loose Leaf Matter

Fortunate indeed is the man of tools who is able to meet requirements as they arise, oftentimes being required to do things quickly for others, or in his more leisurely moments relieve himself of a certain amount of petty slavery to ill-adapted conditions, or entire lack of conveniences in his home surroundings. The music cabinet and folio case which we will discuss were the direct outcome of the constant experience of finding some long-searched-for subject at the bottom of the pack and vowing "When I get time I'll fix things differently." So the folio case now having been in most satisfactory use for some time, sprung into being, designed to take care of matter in a parted or "unit" manner—and the music cabinet—well we kept buying records and the song one wanted—that, too, was generally at the bottom of the pack.

FIG. 196.—General View of a Music Cabinet.

While there are at present but two prominet makes of the phonograph, the one under consideration is the No. 8 Victrola, having a base measuring 15¼ x 18⅞ in. The instrument is an excellent one and the selection of this pattern without a lower stand or case was made with preference of putting more of the large instrument cost into buying future records rather than so

much in an expensive outer case. With the base determining the size of the stand, the height, too, was also governed by the disposal of the 10 and 12-in. records and as will be seen in detail, Figs. 197 and 198, the height over all of the stand is 31½ in. A good grade of easy running brass casters were well imbedded in the four places of contact with the floor, these being exposed about ⅞ of an inch. The work of construction will prove to be interesting by following the plan of making six framed-up panels,

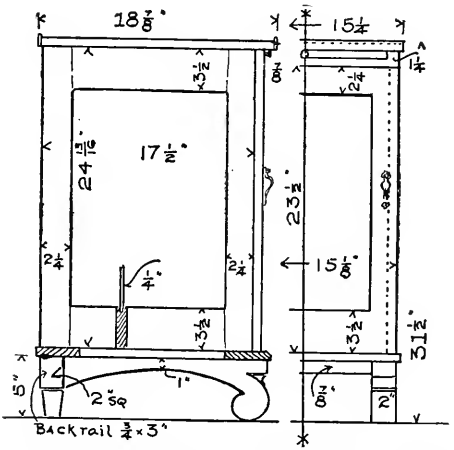


FIG. 197.—Side View of Cabinet.

FIG. 198.—One-half Front View.

all frames to consist of ⅞ in material which before gluing up is treated with a ¼-in. groove on the inner edge of stiles and rails to secure ¼ in. veneer panels set back ¼ in. from front surface. The top frame is without a panel, and the bottom frame has the inner upper edge rabbetted to receive a solid wood panel to be smoothed off flush with the frame. Make all frames glued up to a size, allowing for squaring and fitting accurately. The side frames being alike are set up in relation to the top and bottom frames in the manner indicated in Fig. 199 by bringing them against the edges of the back frame by means of screws. To avoid evidence of screws on the side frames, bring them up in glue to back frame by means of long clamps, and apply finishing and

gluing strips on the inside as shown. Through these, screws or brads may be set alternately.

It will be noticed that the front door, which is finished to 15 1/8 x 23 1/2 in., fits with a slight overhang in front of the side frames and immediately under a filling in strip 7/8 x 1 1/4 in. wide which is cut out to allow of the sliding shelf "A" to be drawn out to a proper length and stopped with a screw or checking strip. This shelf will be found very convenient when using the instrument to lay records upon. A rabbetted slide is, of course, screwed to the sides and top for this movable shelf to slide over. The case now being set up, the base may very readily be fitted and secured by screws to the underside of the bottom.

By a paper or wood pattern drawn and cut out, mark and saw from a 2 in. dressed plank the two Colonial base pieces. Then give more definition to the upper part of the scroll by cutting a line with a V tool, and using a gouge to hollow above it as shown on both sides of each piece. The work of cutting a tenon on the back end to enter the posts, and cutting a mortise to receive the small front apron, may then be done; likewise fitting a tenoned back rail, 3/4 x 3 in. The back legs, which are 2 in. square, it will be noticed, are reduced by a slight taper below the arching sides. All parts being carefully fitted, they may be glued up in the nature of a frame and screwed to the underside of the bottom framing.

One glued-up panel provided with grooves and tongued battens at each end is reduced to 5/8 of an inch in thickness and fitted loosely to the shape of the interior of the cabinet. This divides the height into space for 12-in. records below and 10-in. above the shelf board. The means of support may be by projecting pins, similar to those used in bookcases.

When the final carcase work is completed, a finishing strip is neatly blind nailed with small brads to the edge of the top frame all around as shown in Fig. 199 and indicated by a projection on Fig. 198. Prepare the strips to 3-16 x 1 in. with miter ends and have them well warmed and applied with hot glue, sinking the brads and filling the holes with sawdust putty. This strip makes a proper molding in continuation of molded

base of the instrument, which sets snugly within. Screw holes bored diagonally up through the top of the stand—one on each side toward the front and one at the back—will permit of the instrument being held to the case. Great care should be used in making the door to the front of the cabinet fit very closely, as dust should be guarded against. Use two 1¾-in. hinges with loose pins, and the new thumb spring latch will be found to hold the door tightly closed and yet readily opened. Two light removable cases to hold the two sizes of records should be provided to readily slip in on the bottom and middle shelves. These cases are made of thin material and cut to the outline shown in Fig. 200. The ends and divisions being of the same pattern, the bottom, ends, back and front pieces should be 5-16 in. thick, while the division panels, which are set in grooves about 1 in. apart may be of ⅛ in. material. It is desirable to have the cases portable for several reasons, one of which is more readily to attach a label bearing number of letter to the front of each compartment so that there will be no difficulty in locating or putting away records. A corresponding list should be kept in a book or on a stiff card, which indicates a certain division or divisions to be used for vocal, another instrumental, another talking, and so on.

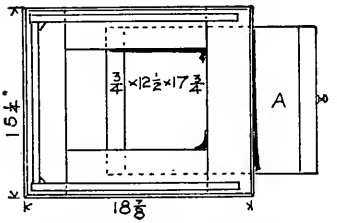


FIG. 199.—Showing Top Frame and Slide Shelf "A."

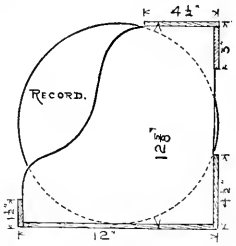


FIG. 200.—End of Portable Record Holder.

The Folio Case

As this article of furniture upon first appearance suggests the familiar "grandfather's clock," it may properly be located in the hall, or jamb space near to entrance to parlor or living room.

To those who are desirous of being in intimate touch with information regarding their line of work, it will be found after many months or years, that it becomes quite a

task to refer to some certain topic without spending much valuable time looking for it among a mass of collected matter. The absence of a proper storing place frequently is the reason for many to discontinue—shall I say the habit of collecting. The writer is well aware from long experience that there is a medium to be adopted between the extremes of not collecting and collecting too much. There is hardly any field of activity in which a man may engage but what he would be greatly benefited; in truth, progress in, by being always on the lookout for further developing information in that line. This source of information is available, and is very frequently free to him in a pamphlet or loose-leaf form.

I am thinking just now of the enterprising carpenter, the prospective contractor. You are at liberty to further inform yourself along any line you wish for the price of a postage stamp or a post card—look over the advertisements and the invitation is always open to you. Much information of value is thrust at you as you walk about an exposition of whatsoever kind.

The most valuable form of loose-leaf knowledge is through the current magazines, not only your trade papers, but your family magazines—read and look them over for they will broaden you. You will say many times: "There is an article I want to keep;" cut it out. Building plans, or other features of home building, articles on sanitation, location and all kindred subjects can be withdrawn in this way from a mass of matter which experience teaches becomes a burden if hoarded in its entirety.

So this folio case deals with the systematic accumulation of such loose-leaf matter withdrawn and obtained from many sources. In one pile it would be quite useless as that article you were so much interested in a year ago and which you admit now you can't recall just where you did see it.

To briefly add to the information given on Figs. 201, 202 and 203, it might be explained that the larger magazines, like the *Ladies' Home Journal* and others, decided the inner size to be 11½ x 17⅜ in., while many years' possessions regulated the height over all to be 6 ft. 9½ in. These dimensions then suggested the use of a clock, and to all appearances every one takes it

for a grandfather's clock, while in fact the clock is simply screwed to the reverse side of the small swinging door covering the upper compartment as shown, marked by a false mold on the sides and projecting in like manner to part the lower and larger door. The attractiveness of this cabinet depends upon the use of well selected wood in either quarter or figure of grain. This cabinet

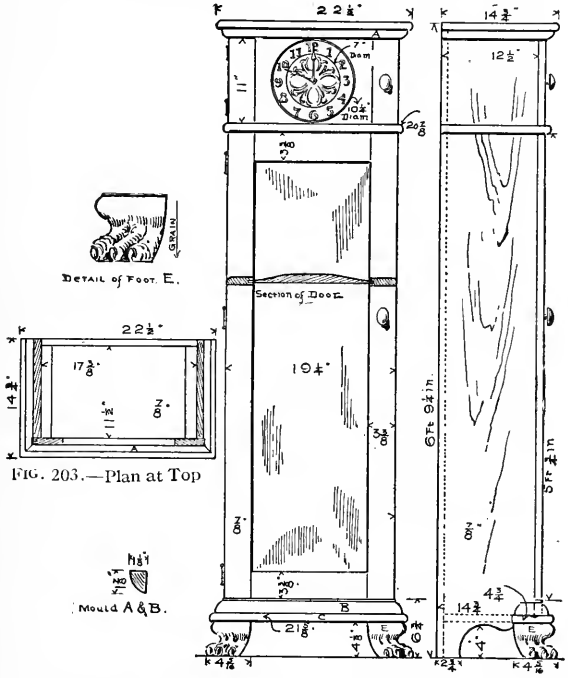


FIG. 203.—Plan at Top

FIGS. 201 and 202.—Front and Side Elevations of Folio Case.

is plain white oak with a pronounced figure which is interrupted only by a mold blind screwed to the sides, and the stiles of upper door are cut from same length of material as the long lower stiles.

Finish of the Cabinet

The entire cabinet being finished in a rich nut brown wax finish makes a very handsome hall piece. The long panel of the lower door is spoke shaved into a fiddle-back shaped from a ⅞-in. board until it is reduced to ⅜ of an inch in thickness along the

edges and slooping into a pretty curve to middle of board, When making the frame, provide a groove in the center of the inside edge to receive the panel, but in gluing up the frame under clamps or clamping device, leave the panel unglued to come and go without danger to future cracking. The disposition of parts is shown in the plan of under part of top, Fig. 203, which is a plain board, 14¾ x 22½ in., with the back construction frame contained within the solid board sides, and the front door overlapping these as shown, the sides being screwed to 1 x 1¼ in. cleats "D," which have been glued and screwed to the top. The molding "A," which is secured from ⅞ x 1⅛-in. stock, is then framed around two sides and front. It is again used in a reverse manner to trim the front part of "C", which is an extended and exposed part of framed-up bottom contained within the construction as shown in the plan, Fig. 203.

The Back of the Cabinet

The back of the cabinet consists of a construction frame with stiles the entire length and with top and middle rail. The bottom rail is raised from floor to be on a line with bottom frame "C." The frame consists of material 3 in. wide, with a rabbet on inner side to receive thin filling in the panels. While the carved claw feet make a very desirable base treatment, the shape of the foot "E" may be used without the carved detail, although a trial block may demonstrate that you have more skill than you think in this direction. After the block is sawed out both ways to shape, mark out the five toe points and cut in the deep gullies by a very quick curve gouge, or large V tool, then proceed to give the rounded form by using a low curve gouge giving form and expression to each division and finally imitating the claw in front of each ball. Amateur effort in carving will show less in imitating a bear claw by not attempting fine detail, rather let it be reasonably rough and rugged to indicate strength, which is the purpose.

The Clock in the Folio Case

The beveled rim shown by the two diameters on the middle panel of the upper door was produced on a large lathe, screwing

a 15-16-in. board to the face plate and turning a flat bevel from 10¼ to 7 in. in diameter down to within ⅛ of an inch of back, when the inner part was removed by sawing out on a jig saw.

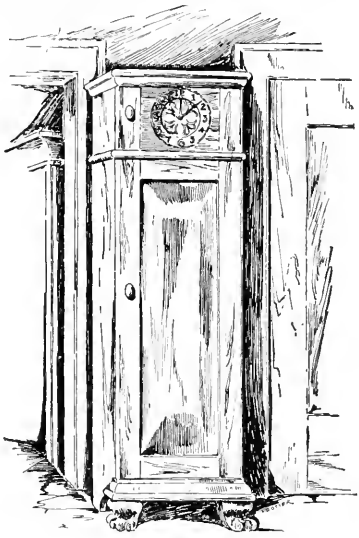


FIG. 204.—General View of Folio Case.

The panel was then fitted with a tongue on each end and the stiles with corresponding grooves, the three parts being glued up and faced off smooth and fitted with hinges to swing like lower door.

A good clock works was secured back of an etched copper dial plate. The clock figures were from stock pattern in cast brass.

The cabinet has been considered up to its final completion as an open case, and it now remains to provide at least fifteen light loose panels ⅜ x 11¼ x 17¼ in. of bass, or white wood, which when sanded all over should immediately be shellacked to keep them straight. These are the "unit" divisions which are supported on four hardwood 5-16 in. dowel pins on both sides of the cabinet. The boring of the holes should be done before the cabinet is put together, boring them at a vertical distance of 3½

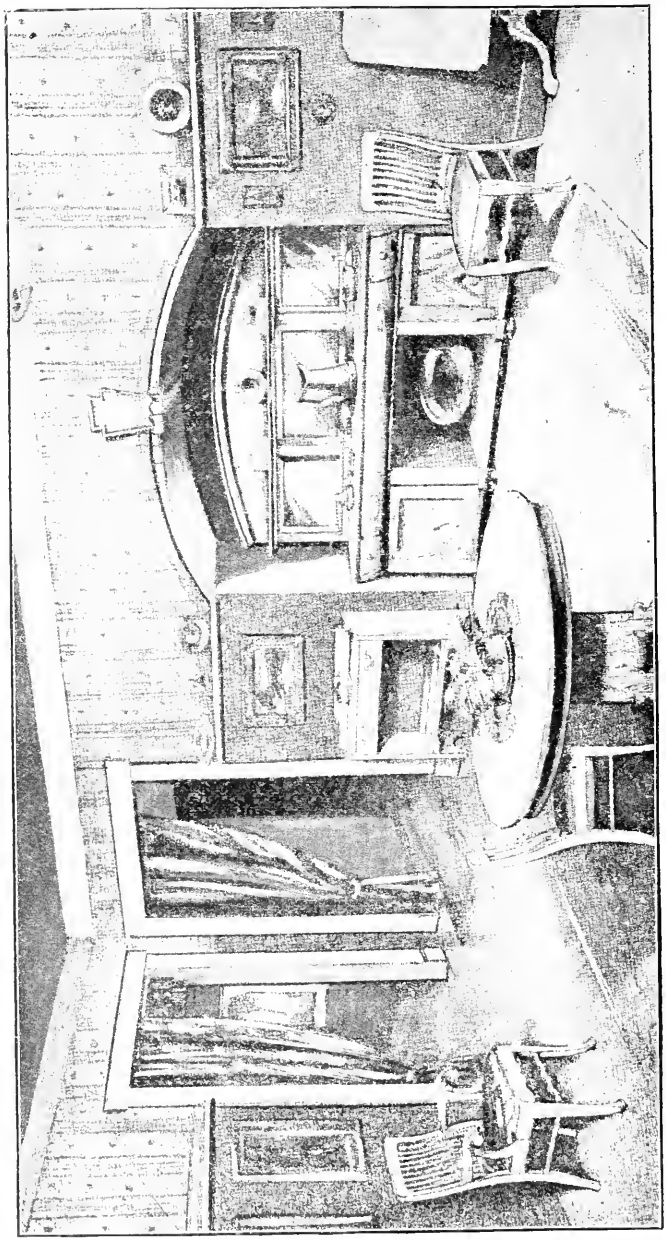
in. centers and to a depth of $\frac{5}{8}$-in. Pins may be sawed $1\frac{1}{8}$ in. in length and round pointed. After your loose-leaf matter finds a temporary resting place on these sliding panels, later rearrangement will naturally follow, when neatly printed labels can be glued to the panel edge, indicating that particular shelf panel is for certain pamphlets, another for catalogues, another for plans. One or more should be set aside for the use of the family, upon which may be stored from time to time the really beautiful and meritorious pictures, poems or other instructive matter which might be removed from magazines or other sources. The children should have a shelf or two for their cut-outs, their bird and nature pictures. Make it a cabinet not only of "last resort," but an ever available consulting point for every one, and when once installed, there will be no doubt of its value to all.

CHAPTER IX

THE DINING ROOM

IT is a fact that cannot be gainsaid that we are, and probably always will be, creatures of habit. The point is well illustrated by Rover who, after the plate is cleaned, moseys back of the stove to ruminate; the old gentleman retires to the kitchen corner for his after-dinner smoke and the children rally about the sitting-room table with their books and games, while Mary at the piano gives a quickened impulse for the evening's enjoyment. We are happily getting over the habit, however, of eating in a chilly dining room where there are just table, chairs and one helpful or admonishing motto on the wall. A uniform temperature now as a rule pervades all rooms and the mother takes pride in all her dining-room possessions; the china closet holds safely all her valuable breakables and the plate racks about the walls display the ware and family plate. The children have helped purchase suitable articles for the sideboard, so where else could the home feeling be more strengthened than about the table of such a congenial room?

Pretense, expense and extravagance may readily be evidenced in the sideboard, for this is a matter to be individually dealt with as befits circumstances. Without doubt many dining rooms would look better with a sideboard less lavishly designed and the form and detail more in keeping with other articles about the room. Many a woman you know will keep saving her "stamps" or go without an extra occasion dress to buy a certain showy sideboard which afterward does not keep company with the old chairs and table; in fact it stands out too much in relief that is bold.



View in the Dining Room.

It may be with some people the plain is little sought after, but in furniture the plain has the stamp of quality and is growing in favor, looking just right wherever it is placed. All the attention it is given in dusting and after-polish tends to improve its appearance. Fig. 205 the reader may see is severely plain—on

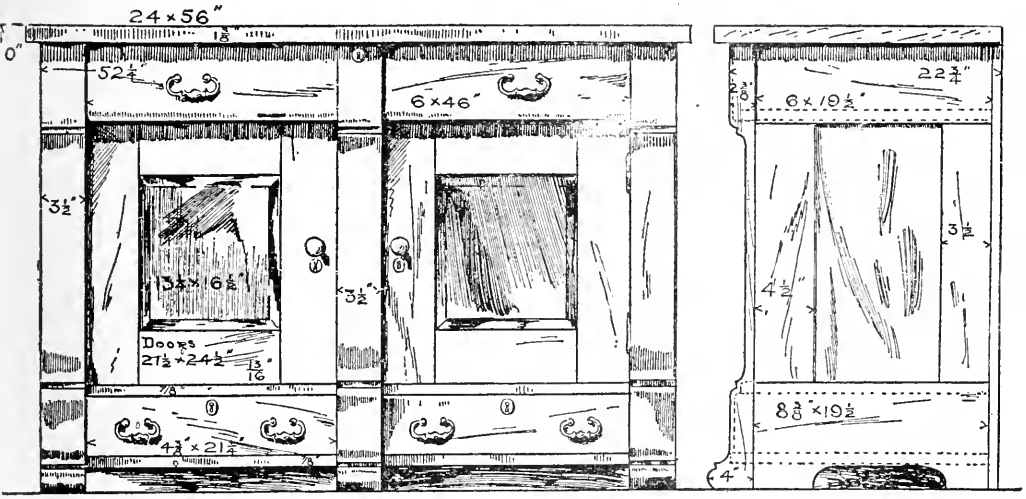


FIG. 205.—Front and End Elevation of Sideboard, Showing Dimensions of Various Parts.

paper— and for this reason it is offered as a model, for within its measurements other forms lighter or more ornamental may be drawn embodying also features or compartments according to individual needs. Right here consult the lady of the house, for you are not supposed to know how few folds she may put into her table cloths, and the top drawer is intended for this purpose, giving as much space as possible. This drawer is the width between outside pilasters and carries with it when open a false cap—a portion of the middle pilaster. The drawers at the bottom run between the three pilasters and can afterward be partly subdivided for small tableware and table linen. The disposition of large space between drawers may also be made "elastic" by notched shelve strips in each corner to accommodate two shelves regulated by the height of the dishes or silverware intended to be placed therein.

It is a matter of fancy or later addition whether a back board be secured on top or some form of hanging shelves be added in keeping with the style of the lower case work. A broad sheet of beveled plate mirror glass gives tone and a reflecting surface for all the cut glass one expects to buy for the house as time goes on. It is a sort of rising barometer of a couple's prosperity.

The back consists of a one-mullion framing of $\frac{7}{8}$ x 4-inch material paneled with $\frac{3}{8}$-inch clear matched and beaded boards. The framing over which the lower drawers slide also has a mullion or rail and a straining rail or board joining the middle pilaster to the back framing. There should be no division back of the middle pilaster in the cupboard proper. The bottom of the cupboard over the lower drawers should be particularly clear and carefully smoothed over for the after-finish. The long top drawer slides over an open framing similar to the bottom frame. The use of a neat three-corner strip is recommended here and under similar supporting places, well glued and bradded. Under the bottom framing in the corner the stock should be built up by gluing in corner blocks substantial in character for heavy casters. Heavy corner blocks should also be glued in the corners of the pilasters and the ends on the opposite side of the drawers.

For this style of case plain, solid cast brass hardware should be used, the new "brush finish" or "satin finish" adding greatly to its final appearance. It is recommended here to provide each drawer on the bottom in the middle with a wide-tongued sliding strip corresponding with a grooved strip glued to the under framing. This when carefully fitted avoids the sticking of the drawers and allows of their being readily pulled with one hand.

The use of veneers for the under panels will undoubtedly be the most satisfactory for strength and a fine display of figure or quarter should be used. Where veneer can be obtained it is evident that by using the thick whitewood rotary cut veneer as a "filler," say $\frac{1}{4}$ inch thick, facing the inner side to be with rotary cut and the outer side with a select figure of sawed or sliced veneer, a cheaper and more durable panel will result. The whitewood filling should run crosswise with the oak veneers.

The use of veneers has grown so general that there should be little difficulty in obtaining flat or curved veneer panels in many sections of the North, South and West, made up to order. As an equipment of heavy presses, however primitive they may be, is required for gluing surfaces of large extent, it is not recommended to attempt anything of this kind unless with serious intent of making many articles where veneers could be used to cheaper advantage. A more attractive and well matched figure would result for such a handsome piece as this sideboard by using plain oak or inferior grade for the top and facing it with well selected sawed veneer, which in a finished condition would have every indication of representing the board to be high grade.

The pattern shown in Fig. 206 has been prepared with the idea of showing the buffet, so-called, and which shorn of the top trimming and lower drawer would make what is generally sold as a serving stand—two pieces which will suit modest require-

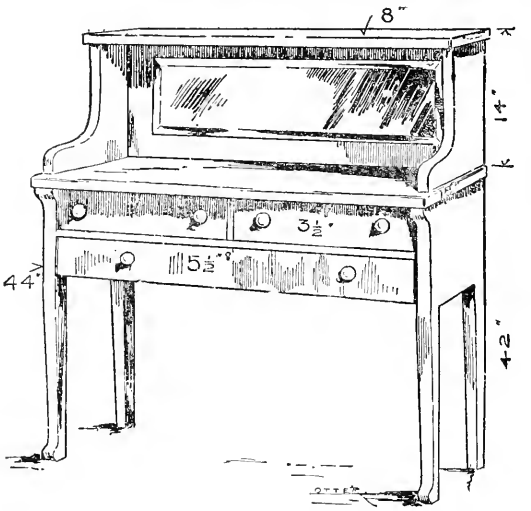


FIG. 206.—The Buffet.

ments. The serving stand, however, does duty in a well equipped establishment as an adjunct to the sideboard.

The size of the buffet or serving stand appeals naturally to those occupying small homes, and for this reason they are ex-

tensively sold to flat dwellers. The buffet illustrated may be made to do greater service by putting the lower drawer 3 inches from the floor and building within the intervening space a two-glass door cupboard, which would truly make it as a miniature sideboard of great use and beauty. The sketch, Fig. 206, is sufficiently explanatory in its outward form to dispense with a detailed description. The legs are 1 15-16 x 2-inch material with end board of same thickness jointed and flush faced. The top and end material is 1 inch dressed, the drawer fronts and mirror framing may be 7/8-inch dressed.

The framing between the drawers and a similar framing under the large lower drawer, which does not show, are made without panels 3 inches in width with one middle stile. The back may be neatly filled with any thin material.

Plain turned drawer knobs in wood with sunk brass escutcheons would look well.

A wax or oil rub gives a refined finish which will be far more satisfactory than maintaining a high polish.

Dining Room Table

The dining table is the central object in the study of the dining room, and just how much attention will be given this piece of furniture will depend upon circumstances, for it is desirable to have a table that is "elastic," accommodating either the slow growth of a family or the sudden dropping in of your wife's brother's family, or mayhap making it under other conditions small and cozy. This feature of pulling apart the main construction or contracting it is usually pretty thoroughly covered by patents and so well made that it probably would not be profitable to make a similar device. If, however, a person in already in possession of a dining table it might be well to remove the expanding and contracting device and apply it to such a table in contemplation. The round top table is now more in evidence than the square top and is no doubt more to be desired by the housewife in the setting and general effect.

In the illustration, Fig. 207, is shown a modern pedestal table which may be equipped with the usual sliding device under all dining tables. The more massive tables frequently have a

small turned or square center leg, which when the table is closed to the minimum size is completely enveloped by the hollow

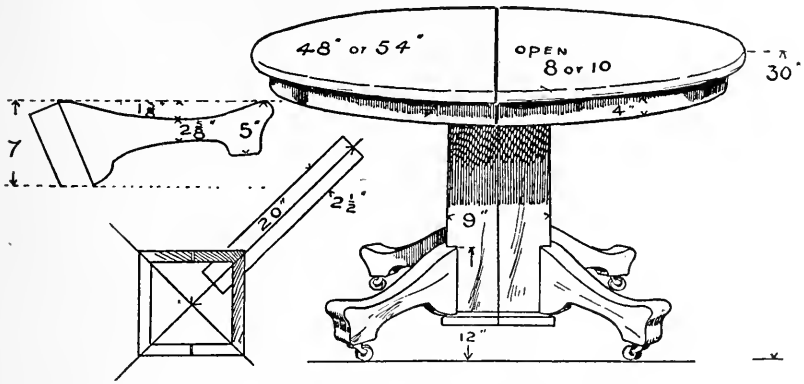


FIG. 207.—Modern Pedestal Dining Room Table.

pedestal. The method of constructing this table is sufficiently shown in the illustration to preclude the necessity of any extended comment. The rim under the top is generally steamed and bent to shape, although many makers saw kerf at frequent intervals and over a drum or form glue and clamp on a face veneer ¼ inch thick. When this has been edge-surfaced fasten to the glued up top by means of screws at frequent intervals sunk in counterbored holes. On the inside place corner blocks glued at intervals. The two pieces are exact halves of the surface, either 48 or 54 inches in diameter, with the edges treated with a plain mold. The intervening and loose "leaves" are squared to the length of the top diameter and provided on one edge with 7-16 inch pointed dowels projecting ¾ inch. The opposite edge of each leaf is bored with holes corresponding in position to the dowels, each hole having the edge countersunk to permit of the pins readily centering.

The square pedestal is best described by calling for a mitered box 24 inches long by 9 inches square of well figured stock care being given to place the figure to view. This box should be reinforced on the inside by stout corner strips set in glue. On the lower end lay out to insert by exact fitting the 4 feet of the table

at an angle of 45 degrees. On each corner provide the lower edge with a plain suitable mold, then remove the fitted legs and saw the pedestal from end to end in the middle. This had best be done on a rip saw. Now the feet may be glued and inserted in their proper places and fortified by corner blocking, and with screws well directed to produce as near as possible the equivalent of a mortise in solid wood.

The Plate Rack

The hanging plate rack, Fig. 208, until recently has been an expedient of what the permanent wall molding is for

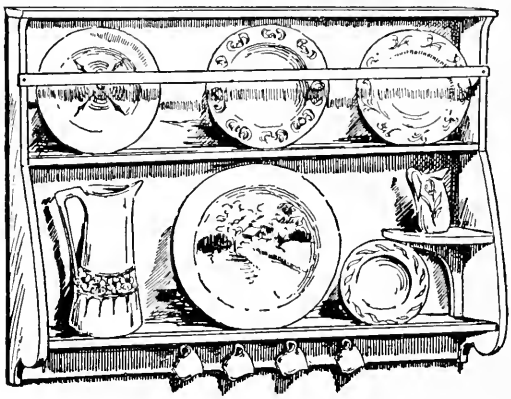


FIG. 208.—Plate Rack.

the same purpose. Even with this there is a liability of the housewife continuing to acquire more fancy dishes than closet or wall molding will admit and the rack proves to be a desirable adjunct. The two end views shown in Figs. 209 and 210, together with the sizes given will readily suggest other outlines. Frequently small brackets on the outside are worked in the construction as a lodgment for a particular mug stein or odd shaped piece. In this, as in all such work, the embodiment of that which is particularly fitting to one's personal requirements puts the work on a different plane. The question will arise among one's friends—your helpless friends, those who do not

know how to do things—where did you get it? who made it? what made you think of it? etc. You who are able to wield the tools of the wood trade can easily excite enthusiasm of a substantial character, for it is a time when patrons are easily culti-

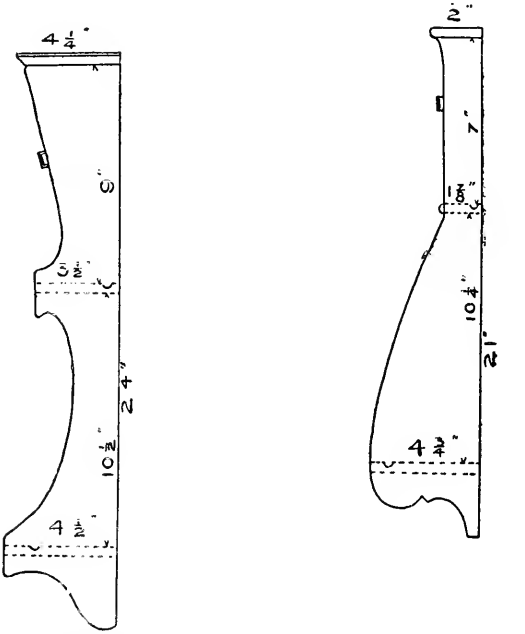


FIG. 209 and 210.—Suggestive Outlines for Ends of Plate Rack.

vated if you can offer them something that fits their needs and is given an individual stamp.

Swing Top Table

The swing top table, or "English breakfast table," is particularly useful in more ways than as a dining room accessory. The writer has found such a table constructed from his drawings most serviceable for writing and the ample surface it gives in laying open many papers makes it more desirable often times than the more restricted writing desk. This table, Fig. 211, proves to be the embodiment of utility and when out

of service with the top swung into a vertical position it is just one of the pieces to break the angularity of a room, for with the tripod form of base one foot can be placed to the wall corner and the top shown to the front as a presented shield. This particular top led to a happy thought as to the disposal of a certain rare piece of ash burl veneer of an unusual size, or, more correctly stating the fact, the possession of the veneer required thought as to how best to use it in its full surface, and the oval table top was the result. The shaft consists of a turning from 3½ inch

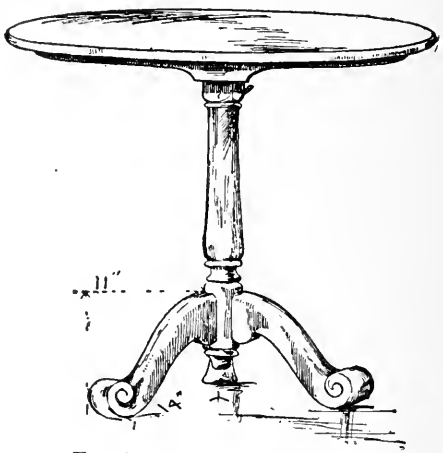


FIG. 211.—Swing Top Table.

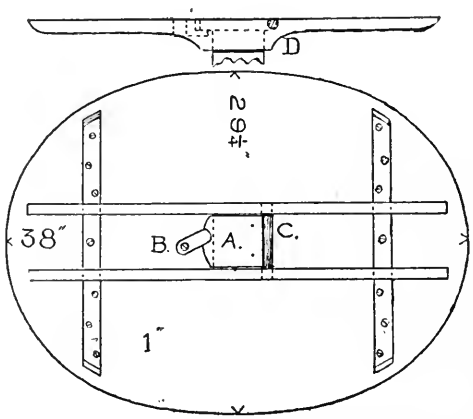


FIG. 212.—Under View of Table Top.—The Part D Represents Side View of Batter Showing Position of Dowel Hinge C and Catch B.

squared stock. This draw to your own fancy, bearing in mind that a long, smooth, plain part with few finicky dips and knuck-

les will be most satisfactory. The post stands, with the three feet attached, 27½ inches to the squared top, upon which is secured with four screws a block 1 inch in thickness shaped at the end and the width of the post, as shown at A of Fig 212. At the straight end of this block is secured by two screws a 1-inch straight round pin, C, which has been previously inserted in corresponding holes in the lengthwise battens, as shown at D. The table top operates on this pin, permitting it to be turned to a vertical position if desired to stand somewhat out of the way. In order to lock it in a level position a turn block of maple secured at B and operated as shown at D securely holds the top against the projection of the immovable block A. To determine the position of the two holes in the battens the top should be set squarely in the middle over the post, when the hole center may be marked and the battens removed for boring.

Make sure that the stock for the table top is perfectly dry. This should consist of not more than three widths selected to have the joints match well. After gluing reduce to a full inch in thickness and fasten with glue and screws immediately, the two cross battens. Furthermore, if possible put on the first finishing coat in order to doubly guard against any chance of warping while the other work is being carried on. The edge should be treated to a half round mold, an ogee or a part half round with a slight undercove mold.

The Dining Chair

The pattern shown in Fig. 213 is offered because it is little seen in furniture stores selling at a popular price and is a type more made to order, with specially selected upholstery covers. It is very true in furniture that the solid and substantially plain is expensive. Good reason why if one is able to produce such work that he confine his efforts to that which will always satisfy—the plain and direct in construction.

Two ways of treating the back and seat are indicated, the leather on the back and the heavier padded seat being the more desirable but more expensive treatment. One may choose to make the back with three flat splats, as shown, and the flatter

padded seat, and at some future time change the style of the chairs by the more sumptuous over-stuffed treatment, as shown. This chair without the upholstery in the back could be fitted

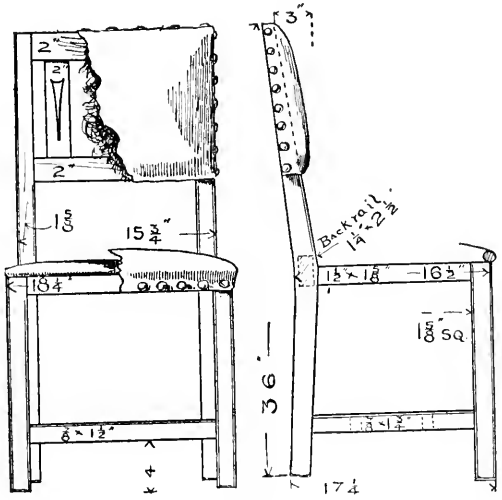


FIG. 213.—Front and Side Views of Dining Chair.

with a 1-inch saddle shaped seat if no upholstery is desired. Should the chair be made for an all-over covered seat, as shown, the front seat and rear rails may be of some solid inferior wood. Before the final gluing the edges of the legs and back posts and top of strainer rails should be treated to a decided chamfer. Do not fail to reinforce the seat rails by corner blocks firmly fitted, glued and screwed.

One or two arm chairs will be a desirable part of a set of dining chairs. With this particular pattern, and as would apply to most any arm chair, the front should measure 4¼ inches wider and the back 3½ inches wider than the dining chair, and the depth of the seat 2½ inches, with the back post 2 inches higher than the diner. The front leg is extended to the curved front post, as shown in Fig. 214. In laying this out on the drawing aim to combine the arm and post so that the scroll end does not

project beyond the face of the post, as it is annoying to have the arm strike the table. The top of the arm joins the back post 11½ inches from the top of the seat rail. The arm is secured

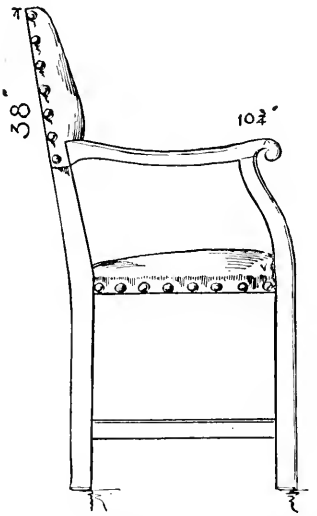


FIG. 214.—Side View of Arm Chair.

from stock 3½ x 18½ x 2 inches in width. Finish the top with a low round dressing. The front and back posts from the seat down should be 1¾ inches square.

Upholstery

The upholstery admittedly gives tone to such a pattern as shown in Figs. 213 and 214 and this work is not very difficult. Assuming that the back and seat are allover covered, the manner of giving a workmanlike edge to the seat is by fitting and nailing a ⅞-inch dowel on the seat rails, as shown. Mitering the three pieces at the front corners with the slight overhang as shown in the side view of Fig. 213 gives when covered a desirable effect, as will be understood from an inspection of the front view. On the bottom of the seat rail stretch very tightly burlap upholstery bands, weaving them from side to side and from front to back so that a solid cover is formed. This is done

by heavy tacks, doubling the ends before nailing. Upon this surface evenly space six double upholstery springs and with a curved upholstery needle and twin sew them in this position to the burlap. From the top rail nail down with a staple and knotted end of heavy cord and begin tying down each spring from side to side and front to back. This must be done with an eye to the form of seat—that is, having the outer springs pressed down more than the center ones and maintaining that crowned form peculiar to all chair seats.

First efforts may not prove entirely satisfactory and the work should be cut out and done over in order to secure a well balanced frame work, upon the top of which lay a piece of bagging or burlap cut a little larger than the frame and from the back proceed to tack over the cord work. When fastened along the back railing pull over and tack along the front rail, turning one edge in double, then in like manner the seat and finally tack down the other side. The work should now look balanced and not too highly crowned. Herein a little observation and judgment should be used to decide this part of the work. Upon the top of this covering is placed a generous quantity of well picked hair. Mold this about to the form as much as possible and with the curved upholstery needle secure it by a few well placed stitches so that it will not shift in after use. A sheet of cotton batting is very often used—laid upon the hair— and the work is then ready for the leather covering. Brown Spanish leather should be used for the covering. In order to ascertain the correct size a trial should be made, using some cheap material, stretching and tacking it sufficiently with small tacks, which may easily be afterward removed, and then a paper pattern can be cut for use in securing the leather without waste. The smaller headed nails are proper should the very large nail be found too expensive. Whatever nail is used aim to so place the four or five tacks on each rail that they will be finally hidden by the heads of the finishing nails.

Now start the leather from the back and proceed to place a few starting tacks along the back rail and then finally pull forward, meanwhile pressing with the hand. Pull down over the

dowel edge and secure with four or five tacks along the lower edge of the front rail. Then after cutting out a corner of the leather against the back post double and tack neatly about the post and proceed to form down to the side rail. Then secure the other side in a similar manner. Possibly a smart blow with the hand will be necessary to correct any unevenness before the cover is at last held to place. The finishing tacks should now be correctly spaced and driven to place. At the corner a small square should be cut out to avoid an extra lump at that point.

In concluding the subject of furniture pertaining to the sitting room, parlor and dining room the matter of stain and finish has been treated in detail in other chapters. The finish which continues to be popular is the dull finish with which every one no doubt is familiar and which is exemplified in connection with the so-called "mission," "quaint," "arts and crafts" furniture, while the color is under as many more terms—"weathered," "Antwerp," "cathedral," etc. Fumed oak, however, which is standard and generally seen under wax finish, is a most pleasing tone. Such a finish will always be satisfactory and its appearance will be improved every time it is rubbed over with a cloth.

China Cabinets and Tea Cart—Certain Well Established Needs—Great Help to the Housewife

Very frequently provision for placing and displaying choice table ware, and cut glass in the built-in sideboard is inadequate, and also without proper light to show to good advantage the features of some newly acquired bit, for it is well-known that a woman is about as eager for a new plate or bowl as a boy is to acquire some strange foreign postage stamps to add to his collection. The chief aim then will be to have the parts trimmed down as light as possible consistent with strength, for there should be no great barrier of framed woodwork to obstruct the view; rather will it be a set of frames set up in case-like form containing well selected sheets of glass; in fact, many cabinets have the shelves of 5-16 in. plate glass, which adds much to the display of cut glass ware, and in place of the plain paneling of the back filling, a full sheet of mirror is often used to apparently multiply and add to the brilliancy of the displayed ware.

Fig. 215 consists of practically four frames, the sides and back being blind screwed to a top and bottom board each 15½ x 30½ x ⅞ in. and a finished panel 5 in. wide fitted on the back edge as shown. The entire case is raised on a simple form of square cabriole leg in front, obtained from a block 4½ in. square, sawed out in shape as suggested from a pattern made from your drawing. The back foot is 4½ in. long by 2 in. square, slightly tapered. Both feet are attached by two dowels each, set in glue and further fortified by corner blocks placed in back where they will not show.

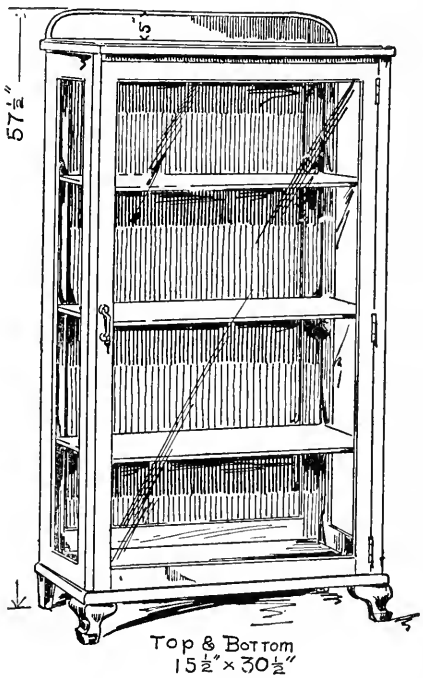


Fig. 215.—One Form of China Cabinet.

Before the door has been laid out on your drawing, allow for a ⅝ in. wide strip set in under the top board. All these frames may be made up to have a finished size of stiles and rails of ¾ x 2 in. The inside edge is rabbeted to take a good grade of single thick glass, and deep enough to allow the glass to be set in with a neat ¼ or 3-16 in. square strip instead of putty. The filling of back frames, shown in Figs. 215, 216 and 217, may be of well selected tongued and grooved material, or some of the new brands of composition board may be covered with veneer paper, if a regular laid-up veneer panel cannot be conveniently secured. The shelves can be fixed permanently at even spacing or frequent holes bored on the inside of the frames into which the little metal shelf rests may be used as in bookcases.

In laying out a preparatory drawing for Fig. 216, consider that the top and bottom board is secured by four 1½ in. square posts placed within 17 x 40 in. The back post, it will be observed,

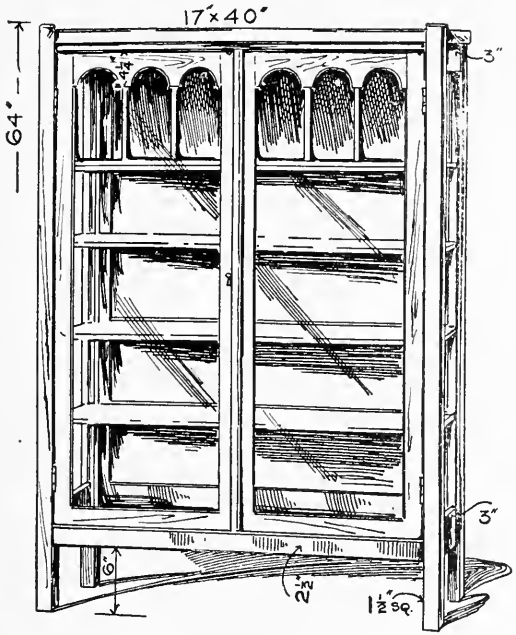


Fig. 216.—Another Style of China Cabinet.

sets under the top shelf and the front slightly projects above. Place on the ends a 3 in. cross rail under the top shelf and in front of the lower shelf, while a 2½ in. apron goes across in front of bottom board, and under doors.

Before provision is made for the shelves, ¼-in. strips are glued and secured with headless brads to the inside of the posts at the side, against which the side glass is set in and held on the other side by ¼-in. strips, also invisibly secured by glue and brads. The front doors have a full sheet of glass up to the mullion under the glass panel divisions. The top rail cut out in the three-arch manner may have one piece of glass set in across and behind the

two divisions, if it is found difficult to cut the glass to the round shape, although an ordinary ten cent glass cutter will readily cut this. The cutter is run around a stiff pasteboard pattern with a firm hand and then tapped from the back of the glass until it is severed. Material ¾-in. thick is used for doors, top and bottom to be ⅞ in. while the shelves may be ⅝ or ¾ in. thick, well dried.

Fig. 217 will be found to be a very dainty shape in the size given—15 x 24 in.—but this width may be doubled if the style is desired for a more roomy cabinet. This size will be found more effective than a larger cabinet oftentimes when placed in a certain wall jamb or put diagonally in a corner. This, too is built somewhat in the same manner as Fig. 216 within four 1½ in. square posts, except it has a 3½-in. apron framing under the top finished between posts by some simple suitable molding as suggested, the apron to be set ¼ in. back from face of posts. The back frame and front door frame is made of ¾ x 2 in. material for stiles and bottom rail and in your drawing plan to make the top rail a full half circle with sun ray effect as shown, the strips or ribs having an exposed width for this interior framing of ½ in. The larger and lower part of door consists of three long divisions of glass.

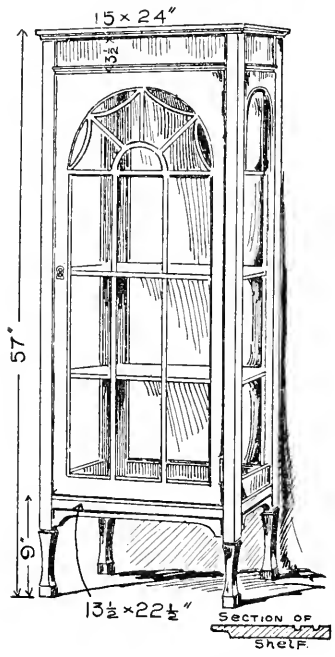


Fig. 217.—A Dainty Pattern of Cabinet.

This door treatment is an easy suggestion of many modifications that can be given which are now so popular, influenced greatly by the practice of Chippendale, and later so much used by Colonial cabinet workers. An arched top rail may be made

for the sides to conform to the arch of the front, leaving out the grille work. To reduce the cost of a full mirror back panel, if mirrors are desired, the back framing may be divided by cross rails which are spaced to go back of the shelf division , and four mirrors may occupy the place of the usual wood paneling.

In order to reduce the thickness of shelf edges without reducing the thickness, mold the ends and front edges with a wide ogee mold, which when adjusted in place, molded side down, resting on shelf supports, cause them to have a very light appearance. Provide also on the upper side of shelves two well cut grooves one 1 in. and the other 2 in. from the back edge. These are to stand plates on edge, preventing them from falling. The new style of cabinet door handle will be the proper thing for such cabinets, consisting of a plain half hoop brass handle with a small thumb knob above, which when pressed in, releases a positive spring catch. This is more to be desired than escutcheon knob and key.

Tea Cart

It is not so very many years ago that if real "plain folks" were seen using a tea cart they would be regarded by certain neighbors as "putting on airs" or getting "tony." Considering the many articles which have heretofore been classed among the luxuries of life the tea cart when used will be found to greatly lighten the labors of the housewife, particularly if she is attempting much or all the labors of the home. From the kitchen many meals may be carried entire, while there will be a great reduction in the labor of removing the dishes and at the same time it gives the housewife greater composure at the table that her dessert prepared before the meal needs only to be wheeled to her place at the table by some other member of the household.

This is one of the many items of conserved energy which our women are adopting and it will not be long before few homes will be without a tea cart, and where the outdoor life on porch and lawn is being given so much attention the tea luncheon is readily carried about on the cart wherever desired.

In Fig. 218 is shown a tea cart which provides ample space for the needs of an average family. It may be found on looking over this illustration that it would be desirable to provide other features. Some have a knife box arranged under the tray between the handles, but whatever these additions may be, aim to embody them in the preparatory detail drawing which should always be made. This drawing does not need to be elaborately

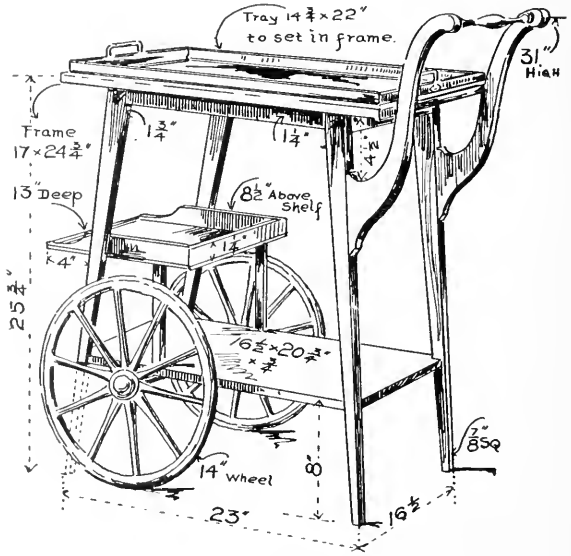


FIG. 218.—Details of a Modern Tea Cart.

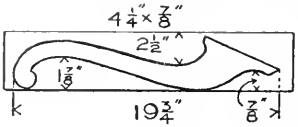


FIG. 219.—Details of One of the Pusher Supports.

detailed, as the main thing is to obtain the constructional outlines or boundaries and whatever bevels will be required to know; also to draw any part of the varying forms, such as the pusher supports, shown in Fig. 219 that it came from a board ⅞ x 4¼

x 19¾ in., then trace this on a heavy piece of paper, so that it can be cut out to the mark on the prepared board for sawing out, the two being sawed out together if done on a band saw.

Considering that the removable tray on top is made first we will proceed to construct the cart to hold it. The tray having an outside measurement of 14¾ x 22 in. sets in another frame 17 x 24¾ in. which is screwed to the frame of the cart through the under side of the side rails, the end rails providing a resting place for the tray. The plan of the rails and four posts of the cart will be found to be 16½ x 15 in. This detail being known it will not be difficult to proceed with drawing up the rest of the cart from the measurements given.

The wheels may be made in several ways but the form constructed after the manner of a wagon wheel will give the greatest satisfaction. A drawing should be made of this. The diameter of the wheel for this cart is 14 in., including ½ in. rubber tire such as is used on a child's carriage. This tire is not absolutely essential and I mention this in case it is not readily obtainable. A piece of very heavy felt or flat band of rubber glued on neatly in a similar manner to the rubber on a band saw wheel will answer. The felloe should be not less than ⅝ in. in tread and ¾ in. wide jointed in the same manner as in a wagon wheel.

The spokes are worked to an oval and round shape from a ⅝ in. square and are fitted into a 2¼ in. hub with a long tenon. Avoid turning the hub of a pattern which will project too greatly on the outside of the wheel as it should be just a low round to avoid striking the door jambs. Have the journal bearing in the hub bored and counter-bored to receive the nut on the axle in a flush manner. The axle which is held by screws to the bottom of the under shelf should be ⅝ in. square with a 2½ in. journal and proper washers at each end of the hub.

The wheels should represent careful workmanship and if it is possible have them so that they can readily be detached by a spring catch on the axle and an inserted flange bushing within the hub rather than the old style of threaded axle and nut which too frequently allows grease to collect on the outside of the hub.

The new "steel glides" or "domes of silence" will be found very smooth terminations driven in on the bottom of the front legs. These are now largely supplanting the unsightly and objectionable casters on most all kinds of light furniture.

CHAPTER X

BEDROOM FURNITURE AND CONVENIENCES

The Bedroom

IN other chapters the principal main floor rooms of the dwelling have been considered; the sleeping room however, while less elaborately furnished, should be given our careful attention in that it should be simply furnished, the furniture being free from excessive ornament in the way of carvings and elaborate moldings, for the aim should be to show the beauty of the grain of the wood under a tinting or stain that needs no excessive drapery to set it off.

As the "Mission" style, or now properly known as the "Arts and Crafts," is very much in favor, Fig. 220 is offered as a suggestion on which to work. The size intended is 4 ft. 6 in. x 6 ft.

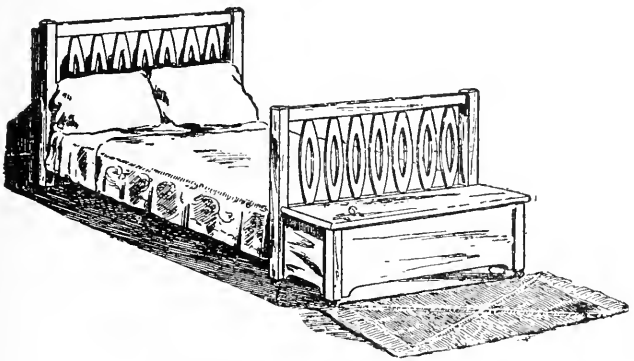


FIG. 220.—Bedstead with Chest.

4 in. long, with the back 51 in. and the foot 41 in. in height. It would be well to get other points and information from a standard bedstead. The posts are 2½ in. square; top rails 1½

in. x 2 in. and the splats ½ in. thick, with edges and openings smoothly sanded. The chest is framed into the front posts as shown, with the lid lifting. This will be found very convenient for extra sheets or blankets. Naturally no cracks or crevices should be allowed to go unfilled in any bedroom furniture, so for this purpose a mixture of glue and sawdust will be found good to "putty" into all such places previous to finishing.

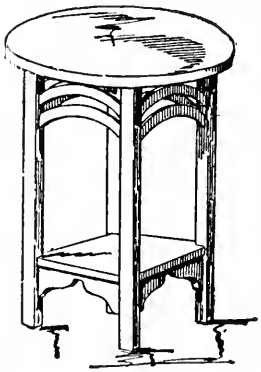


FIG. 221.—Bedroom Table.

Little need be said concerning the side table shown in Fig. 221, which will always be found serviceable for a clock, lamp or book. The top is 17 in. in diameter and stands 29 in. from the floor; the posts being 1⅜ in. square. A suggestion is made here which would turn this pattern to double use by boxing in three sides to a height of 10 in. above the bottom shelf and providing the fourth side with a hinged door, and a top over all, thus making a suitable bedroom commode stand if so desired.

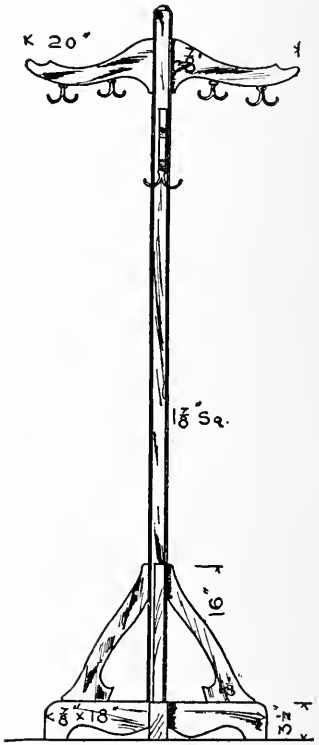


FIG. 222.—A Clothes Stand.

The value of the clothes stand and costumer heretofore has been little appreciated, the apparatus consisting usually of a few hooks here and there, or a chair seat and back was utilized to hold the clothes discarded for the day. Either method gave little chance

for proper airing or an easy disposal of them to the hallway or unused room for the night.

The arms entering the standard transversely as shown in Fig. 222 permit of eight double hooks being used; a 12-inch dowel may be centered just above the braces for hosiery. The total height of the stand is 62 inches. The intersecting base is halved with the standard entering joint with a ¾-inch tenon, well fitted and glued. The braces may be doweled to the standard and secured to the base by screws from underneath, counterbored.

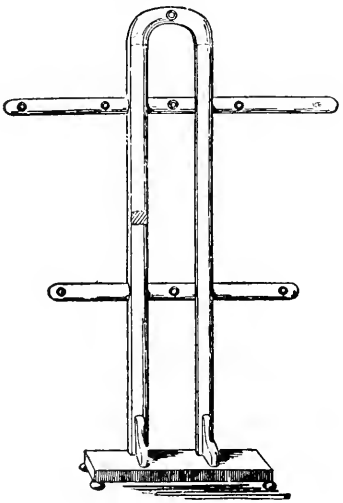


FIG. 223.—Costumer.

Nine pegs are indicated in Fig. 223, although the number and disposition is entirely optional, the main point being to stagger their position so that one garment will not overlap another when hung up. The posts and arch are made of 1¼ x 2 in. material, the posts being 9 in. apart and the distance from the floor to top of arch measuring 6 ft. The top cross bar measures 40 in. and the lower bar 30 in. in length, each is 1 x 2 in. wide, slightly halved out to fit the posts, the faces of posts and bars being rounded as shown. The base is 1½ x 2 x 6 x 24 in. raised at the corners by flat turnings as shown, the pegs to project 4 in.

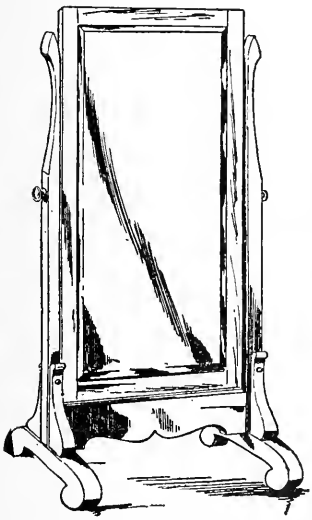


FIG. 224.—Cheval Mirror.

Occasionally a man may wish to view himself full length in his proud clothes—but a lady always—so a full length mirror must be a part of the furnishing, materially adding in its usefulness to the attractiveness of the room. In Fig. 224, the mirror shown, 20 x 52 in., is set in a frame of 1¼ x 2 in., and swung within a stand consisting of 1⅝ in. square posts mortised into bases 1¾ in. thick, and 21 in. long, and cut within a width of 4½ in. according to this or similar pattern, the two parts being securely mortised and tenoned. The hanging pins may be turned in some hard wood, or be of metal, so placed, by experiment, between temporary posts to swing to stay either tipped forward or thrown back as wanted.

The shoe and slipper chest might be dispensed with if no further use was made of it, but as the one shown in Fig. 225 is intended outwardly as a window seat it forms a finish to the room and a place to put on shoes, or keep in proper bounds shoes and

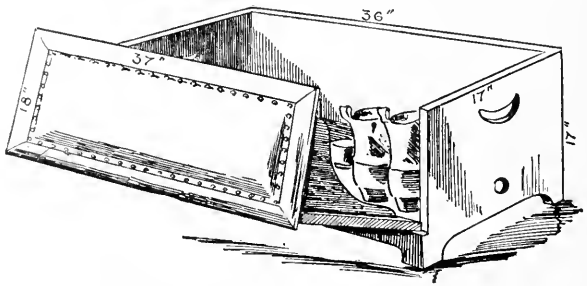


FIG. 225.—Window Seat Shoe Chest.

slippers when not in use. This chest is built of 1 in. material, the top and front side swinging forward to the floor on hinges as one piece when the chest is open, as shown. A corner bracket holds the top and front at each end.

It will be noticed that the top of the chest is of panel construction, over which a light padding of cotton and hair may be placed in an even manner, this in turn to be covered by a piece of colored sheepskin cut somewhat larger than the exposed panel size, this to be neatly tacked down just within the outer framing by brass headed nails.

Refinement in outline should be the first suggestion of the dresser. We think of it more as the ladies' work table, in fact there is little room left for the dear man to share it in. Possibly Sundays he takes a flash light of himself in the mirror to see that his outer rigging is extra satisfactory for an off day. In the illustration, Fig. 226, the Colonial style is uppermost. The after-finish is a delight to the eye and pleasant to the touch. With the figures given on the sketch no difficulty will be experienced in making the one-half drawing of the front elevation, and in

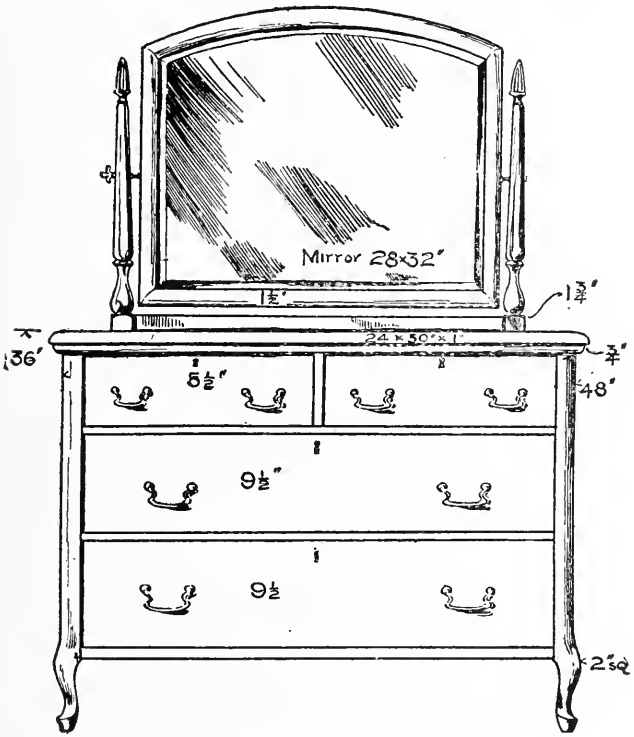


FIG. 226.—Colonial Dresser.

drawing the end view it is well to keep within an over-all width of 22 in., having for a back leg a 1¾-in. square post reduced to a slight taper. Between the front and back posts draw a framed

panel, the width of framing being 3 in.—the panel, a well selected piece set in either a rabbet or a groove in the framing. A similar paneled construction constitutes the back. This should have one or two upright mullions between the distance of the back posts, the frame and filling being of course of a cheaper wood. The first, second and bottom drawer divisions are similar unfllled frames with a center mullion. The top frame is of the same character except that it shows a $\frac{5}{8}$ in. projection over posts and is molded $\frac{1}{4}$ round. This framing is glued and screwed onto the top, which is $\frac{1}{8}$ in. longer on the ends and front, treated with a more than quarter round finish.

We now have the various parts of the carcase to assemble according to the plan which should be prepared in connection with the front and end views, which will show just how much is to be cornered out on the drawer divisional frames to bring them into contact with the inside face of end and back framing, where at the proper place they are to be secured by diagonally countersunk screws, and further fortified by three-cornered glue blocks. The dividing board between the two small top drawers is now put in place and held by screws through middle mullion into bottom edge and glue blocked against back frame. The reinforced top may now be put in position over posts and brought down tight by screws diagonally placed through framing and also into post corners. The corner posts should not be reduced by the spoke shave to a full quarter round, but in the final sanding and finish no evidence of flatness should be apparent.

The drawers should properly be dovetailed and be made of exceptionally dry material.

The stanchions are turned from stock $1\frac{3}{4}$ in. square, a square base being left to mortise with a $1\frac{1}{2}$ in. cross bar immediately under swinging mirror. This mirror stanchion is held to top of dresser by a lag machine bolt secured in the ends of stanchion posts and passing through top of dresser to be held by a nut and washer. The beauty of the narrow mirror framing depends greatly on the even roundness given it, and when oak is used the display of quarter is everything here and on top, as well as on the drawer fronts. Avoid selecting overlarge

and ornamental hardware, as the plain remains good through all changes in style.

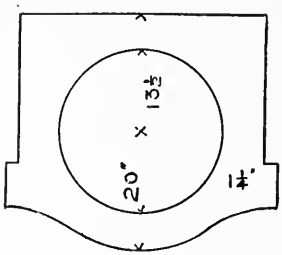
Convenient Bedroom Furniture

It is a matter of progression rather than of unrest which creates the desire to have about us much that is convenient and conducive to our comfort. The time was when the gourd dipped into the running stream or spring permitted the morning face wash right on the spot, or, later, with more shifting and apportioning of the precious fluid, the ablution was performed within doors. Time and even the wind mill have produced such a change that the small boy has no excuse to skip the wetting of his face because the pitcher is empty. The harnessing of the wind with a system of simple plumbing will give a city man's comfort to the ranchman on the plains. We, however, have not universally advanced to the time when cold, much less hot, water will be found in every room of a dwelling. Some have gone so far as to invite the pump into the kitchen, which seems by the way a more hospitable, as well as modern, show of civility than to leave it to freeze outside.

For the rooms unprovided with the luxury of running water the portable wash stand, illustrated in Fig. 227, is suggested as a substitute for the permanent wash bowl and faucets. The main purpose is to avoid the always objectionable feature of lifting and emptying the contents of the bowl into the slop jar. This is accomplished, as shown in the engraving, by procuring a regular lavatory bowl and having a short length of drain pipe to enter the top of the cupboard, where the waste water is allowed to fall into a pail hidden from view by the cupboard door. In this inclosure may also be placed other articles objectionable to the order of the bedroom. It would be well to have a few apertures bored into the back paneling for the purpose of ventilation.

The top of the stand may be made of almost any 1¼-inch material and covered smoothly with copper or zinc, the metal extending over the front edge and partly under the edge of the opening. The size of the hole should, of course, be determined after the bowl is obtained, as size, shape and make are apt to

vary. The vessel, of sheet copper, for holding the water is readily constructed by a tinsmith and will add much to the



Plan of Top

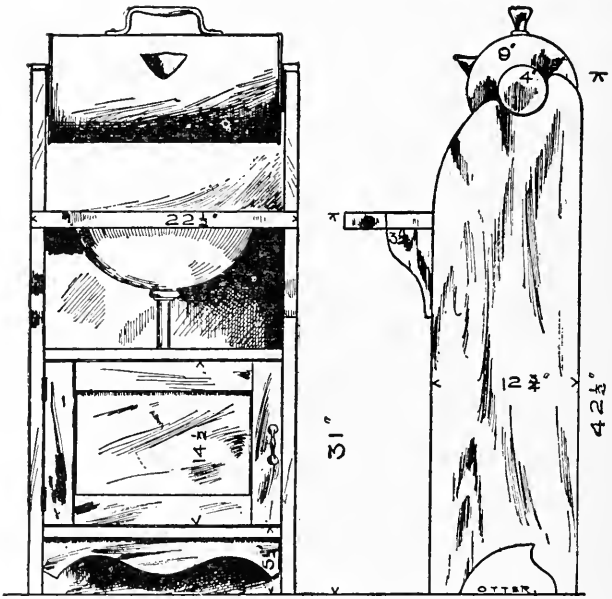


FIG. 227.—Front Elevation and Side View of Portable Wash Stand.

stand when the finish is in fumed oak. The shape is a 9-inch cylinder provided with 4-inch trunnions soldered on each end as axles to hang on the ends of the stand as shown in Fig. 227. A grip handle makes it convenient to carry from the

source of supply and the water may be directly heated in this vessel. Either an outlet, as shown, or a drinking fountain faucet may be provided. The material throughout, with the exception of the bowl top, would make up well from $\frac{7}{8}$ dressed boards; if it is to be the still prevailing fumed finish use plain oak; this is a wax finish desirable for such a piece of furniture subject to some extent to water marks.

Another form of stand closing up entirely after using is represented in Fig. 228 of the drawings. The construction consists of four $1\frac{5}{8}$-inch square posts with paneled frames at the sides

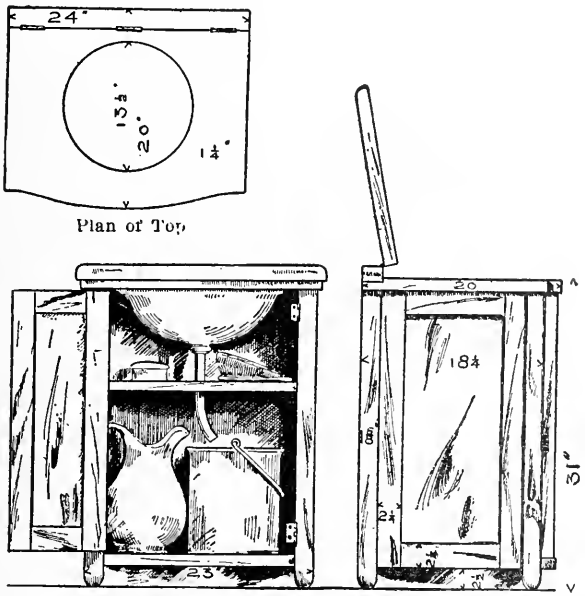


Fig. 228.—Front and End Views of Another Style of Wash Stand.

and back and two swell paneled front doors conforming to the shape of the bowl top as shown. The inside of the lid and surface, as well as the edges of the bowl top, are to be covered with zinc or copper. Ample room will be found on the upper shelf for brushes, mugs and other articles of the toilet.

An accessory to the wash stand is the towel stand, which is of infinite variety of form. The style shown in Fig. 229 is given as a companion piece to the wash stands presented in the preceding illustrations, and with the firm narrow base it occupies but little

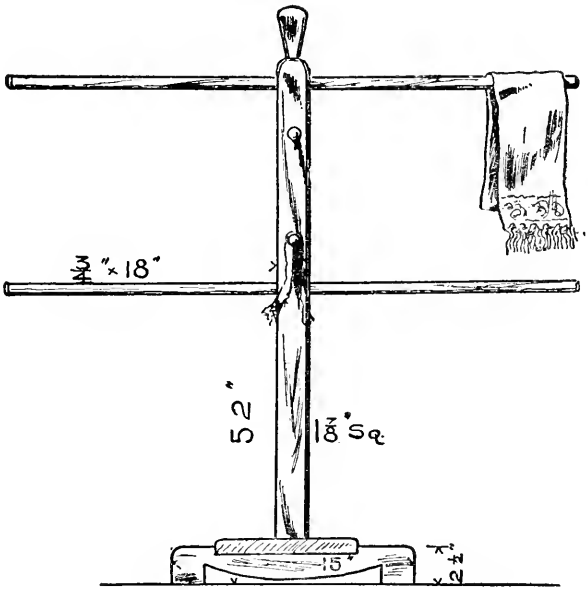


FIG. 229.—A Towel Rack or Stand.

room. At right angles with the ¾-inch dowels two ¾ x 9-inch dowels may be set into the front of the post on which to hang the wash cloths. The post centers on a block ⅞ x 8 inches square.

Bedroom Furniture

Toilet conveniences—the modern dressing table—the shaving stand—the wash stand.

Everything which adds to our comfort—assisting in our daily process of refinement—is certainly to be welcomed, and the few bedroom accessories which are here to be considered, in addition to some previously dealt with, should not be considered as more of vanity's machinery, but rather as furniture forms for the bed-

room which meet the needs of the more modern exaction of the toilet. Our conventionalities more than ever require the wife and daughter to look their best if not their prettiest, and the dressing or toilet table is the lady's work bench. Shaving among men is a daily matter of toilet and a compact and convenient place for shaving articles soon creates a demand for a place other than the window sill or medicine cabinet. The open character of the present-day furniture appeals to the orderly sense of the housewife, as it has recently from a cleanly reason appealed to the office man in the introduction of the so-

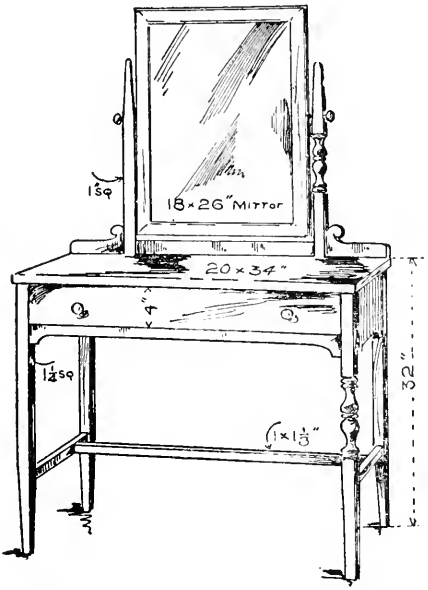


FIG. 230.—General View of Toilet Table.

called "sanitary desk" and other large articles of furniture which formerly were the means of harboring so much dust under the low-built structure.

The Modern Dressing Table

It will be noticed that the dressing tables shown in Figs. 230 and 231 are quite approachable affairs from their open character, and greater comfort and deliberation are to be given the

hair dressing and other toilet operations by the use of the type of chair shown in front of the table in Fig. 230, which is distinguished from other chairs by the low back and different height of seat.

To the craftsman the construction of the articles shown in Figs. 230 and 231 is obviously apparent and it is only necessary to call attention again as in former articles to the almost in-

FIG. 231.—A Toilet Table or Dresser and Its Low Back Chair.

variable use of what is referred to as a "construction frame" illustrated in Fig. 232. The outer size of this is determined on the detail drawing, for be it known that the worker should lay out some sort of drawing showing at least half of the length and

width of the article. In this case the plan is determined by the size of the top, which is 20 x 34 in. Now in the drawing 20 x 17 in. is sufficient to put in all needed detail of half the construction for purposes of location of posts, which in this and usual cases should set in ⅜ to ¾ in. Then proceed to draw in on the half plan the position of the ¾ in. side and back rails, together with the drawer front, which is also ¾ in. thick. The rails should set in from the face of the posts ⅛ of an inch.

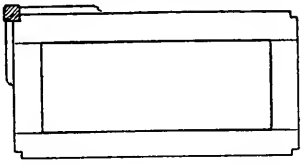


FIG. 232.—Plan of Construction Frame.

Having made this part of the plan, it will be easy to draw in this structural detail suggested in Fig. 231, the thickness for the ordinary case work for this frame being ¾ in. and the width of both stiles and rails 2 or 2½ in. Such a frame is usually jointed with dowel pins, and the corners to receive the posts cut out after the frame is made up, as indicated in Fig. 231. Here, again, as frequently happens, the front part of the frame is exposed to view, as will be noted under the drawer in Fig. 230, and this part of the frame must be of the same wood as the entire construction. Usually when it is not in view the frame is of basswood.

The "construction frame" is a means not only of giving a stiff construction, but also affording a place to secure sliding strips of a harder material upon which the drawers are to slide. The turned form of leg and mirror pillar shown to the right in Fig. 229 is offered as equally appropriate if the plain post is not desired.

Fig. 230 has the added attraction of the swinging side mirrors so much desired in dressing the hair. A certain delicate character and finish should be given to the making of these mirror frames and material of ⅞ in. thick and having a finished width of 1⅛ in. will make frames amply strong, yet light in appearance. Make the rabbet for the glass ½ in. deep and treat the face of frame to a low round shape. Cover back of framing with ⅛ in. paneling or veneer, neatly secured with round head

brads. As thin stock is hard to secure, a certain quality of hard-pressed straw board is being used very generally for such purposes. The middle mirror is held and stiffened by two cleat strips screwed firmly to the frame and to the back rail of the table. Material pressed to a thickness of ¾ or 3-16 of an inch is universally used for most all forms of furniture, while post stock for the lighter carcases is secured from 1¾ to 2 in. squares, which when reduced to a finished size generally measure 1½ to 1¾ in. respectively. This allows for roughness or squaring up of other imperfections. The posts in Fig. 230 are dressed to a square of 1½ in. at the top and reduced to a curved taper of ⅞ in. at floor.

As to the chair shown in Figs. 230, 232, and 233, it is a distinct part of the table, and when not in use it is placed directly under the table out of the way. When in use the low back af-

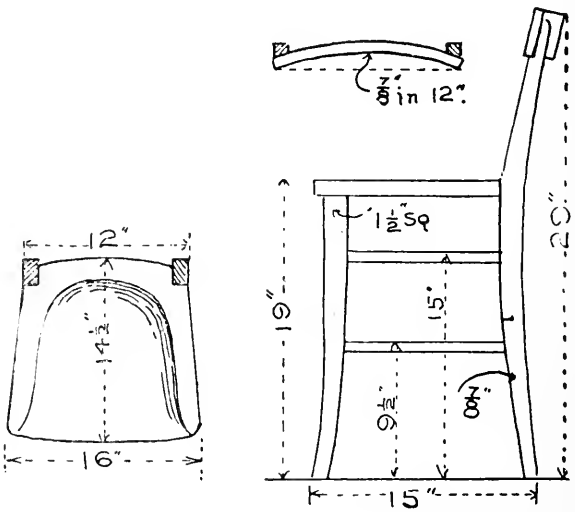


FIG. 233 and 234.—Details of Toilet Table Chair Shown in Fig. 231.

fords sufficient back support, yet does not retard the use of the arms in dressing the hair—considerations which give these two pieces of furniture growing popularity among women. As the

back posts of this chair are secured from a ⅞ in. board 2½ in. wide, sawed to a pattern made from shape indicated, it will not be a difficult chair to make as the two posts are screwed to the seat in a vertical outside width of 12 in. and square to the front.

The curved and tapering front legs are obtained from 1½ in. square stock and are secured by two dowels each to the under side of the seat, having an outside width of 15¼ in. The stretchers are ¾ in. square.

The seat is of a solid or jointed board dressed to a thickness of 1⅛ in. and hollowed out in the deepest part to ⅝ in., forming the saddle effect indicated.

The top slat may be secured by using a draw-knife and spoke shave in producing an even sweep of ⅞ in. in depth in its length of 13 in., and by a pattern or template previously made, mark out the back curve to produce a curved slat which shall have an even thickness of ⅝ in. and have a finished width of 3 in. and length sufficient to project well over the shouldered-out ends of posts. After the chair is set up ready to receive the slat and banister the excess of length may then be marked and cut off to have an overhang of ⅛ in. on outside of posts. Use a depressed screw on each post and fill up after with flush plugs.

The banister may be flat, measuring 4 in. in width and ¼ in. in thickness.

Figs. 232 and 233 will give further information about the building of this chair, and in passing it may be mentioned that the same directions apply in building a reception, or light hall chair, except that the back would be continued to a customary height of 20 in. from top of seat, and 18 in. would be the height from floor to top of seat, instead of 19 in. as shown.

The Shaving Stand.

The purpose in describing the dressing table was that with the comforts of the ladies so well provided for, you may go on undaunted in providing yourself with an equipment for the bedroom or the bathroom, which will make the operation of shaving a real pleasure. The shaving stand, Fig. 235, showing front appearance and side view, will, I am sure, house all a man's toilet articles, and from its light open construction permit him

to move it about to secure favorable light. In these days of lighting by electricity a cord and a bulb stand will put the shaving operation into a real luxury.

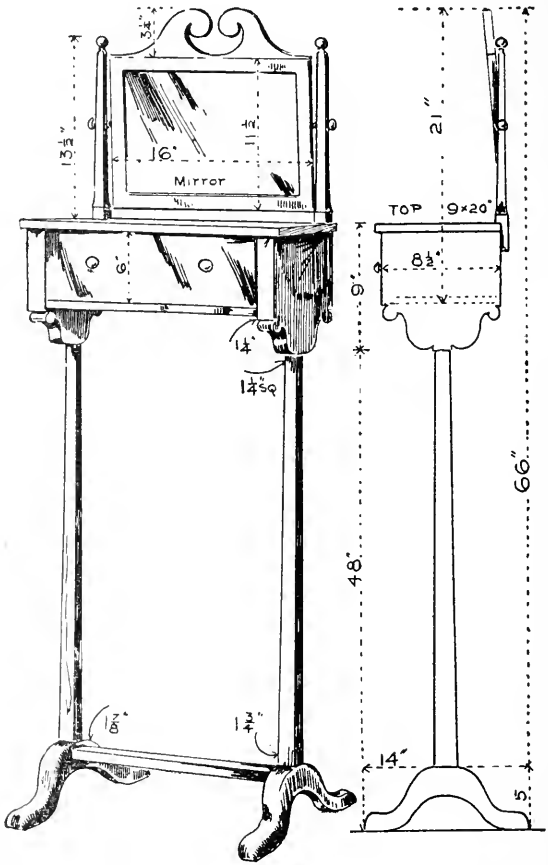


FIG. 235.—Front and Side Views of the Shaving Stand.

For its height over all, of 66 in., the foot and shaft are in this instance made of 1¾ in. material, the shaft being tapered on four sides from bottom to top, to 1¼ in. square, where it is firmly doweled with a large long dowel to the ends of the case which

are also 1¼ in. thick. This shaft properly, however, should continue through the center of these end panels and be planed off, and scraped smooth with the main surface. This method would give unquestionable strength and well pay for the added care of producing good work.

Make use of the "construction frame" referred to in Fig. 231 for constructive strength and for the drawer to slide upon.

The mirror standards are made of 1 in. squares of well selected stock for strength and are secured in the manner shown. They can be left straight or given a taper as shown with a neatly turned ball at the end. The mirror frame is plain like a picture frame, with the top ornament added, such as the open pediment shown, or some other simple Colonial feature. The foot, while it may properly be left smooth and square edged in its final finish, may be safeguarded from damage and mar in use by giving the top edges a well rounded form. In place of the single swinging mirror a tripple form mirror similar to that provided for in Fig. 231 is often desired for shaving operations.

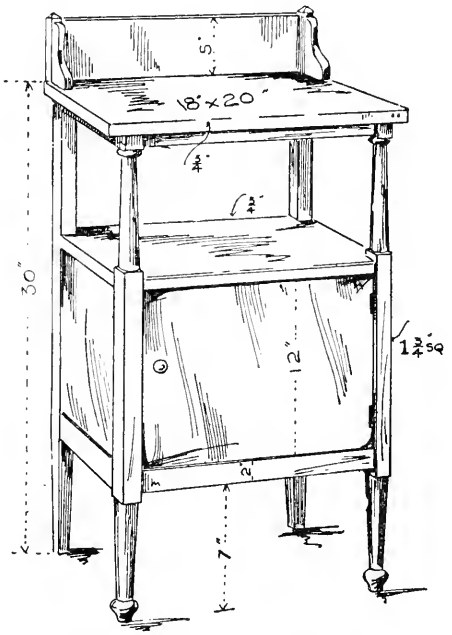


FIG. 236.—General View of Wash Stand and Somnoe.

The Wash Stand.

For guest room or a room not provided with running water, a washstand and somnoe will be found to be a most necessary form of furniture. Fig. 236 indicates sufficiently the construction and manner of making it. This form is very frequently in harmony

with other furniture in a bedroom when made in basswood or maple and given an enamel or old ivory finish. A ¼ in. plate glass is now much used for the top of such furniture, giving a surface easy to clean and permitting a lace or embroidered doily or scarf to be laid under as an added attraction of neatness and daintiness.

Clothes Chests and Wardrobe

The disposition and care of wearing apparel is an important one despite the fact that very frequently little attention is given to the subject by those having to do with the planning of homes. Men do not take this into serious account, and too often a house is turned over to the wife as a monumental gift of the husband's thrift and affection—a house of rooms, with the usual meager closet allowance—in many instances a room or two without a closet, or one the depth of which is controlled by the size of a chimney stack, which must be there, and were it not there possibly the closet of one room and that of the adjoining room would be minus also. This is a niggardly idea, cheating the occupant of that room ever after, and calling for some form of portable wardrobe, chest or chiffonier. This subject therefore is dedicated to the closetless many, the sufferings of whom only the housewife it seems will ever intelligently know about.

Assuming a chimney jamb closet has a depth only sufficient to hang up garments of daily wear, time soon develops the necessity of a place for extra garments, suits or dresses; the situation is relieved by making a clothes chest. Should the room be of ample size such a chest may be after the old fashioned proportions; in other words, about the size and pattern of your grandfather's tool chest or the chest of some seafaring grandsire. These chests are coming into vogue, not only as the chest for the bride's trousseau, but they have a satisfying amplitude which no chiffonier ever possessed. The drawing, Fig. 237, illustrates the construction. Three or four easy fitting tills, Fig. 238, give ready access to the contents and relieve the pressure from such dresses and clothing that may have been put away ironed or pressed.

The "unit system" so much in use in modern office fixtures is being applied to the development of present-day wardrobe fur-

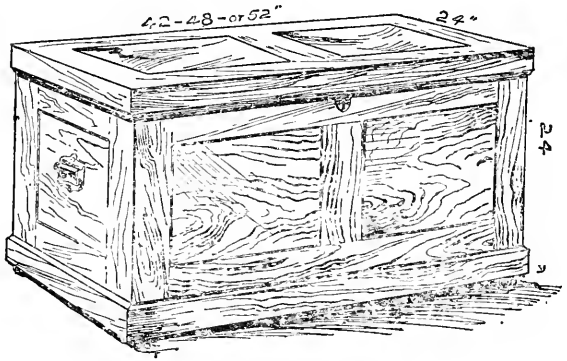


FIG. 237.—General View of Clothes Chest.

niture, the predominant idea being that the outer casing or protection is necessary, but the immediate accessibility of all parts within is of greater necessity. The objects sought are accomplished by dividing the interior space with light removable tills or partitions, permitting garments of a certain kind or weight to occupy a certain till. There is no proof obtainable that red cedar repels moths or insects, but from its beauty and light weight it is to be recommended, as the same size of chest of oak or other hardwood becomes an unwieldly article to move about or transport from one place to another.

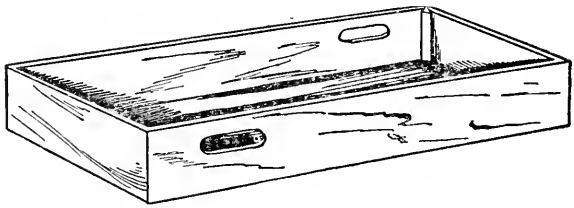


FIG. 238.—Tray for Clothes Chest.

The idea indicated in Fig. 238 suggests an easily removable till, the corners of which it would be well to dovetail, although glued up in box-like manner with neatly fitted triangular corner

pieces would make a firm joint. The material for such a tray should be soft wood not over ½ in. in thickness, and the trays set one upon another.

Restricted floor space in some bedrooms apparently prevents having a clothes chest, yet a very ample chest may be constructed after the manner indicated in Fig. 239. The height from the floor is shown, or rather it should be determined by the space from the bottom of the side bed rail to the floor; 4 or 5 in. wheels sawed or turned from 1 in. stock are hung on projected axle stumps turned nicely to fit with a square left or inner end which is tightly mortised to the sides of the chest as shown. The chest then becomes a wheeled affair, permitting of its being

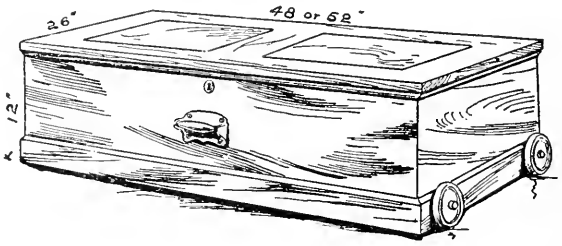


FIG. 239.—Another Style of Cloth Chest.

easily run under the bed out of the way and as easily drawn out for use. Two tills similar to that shown in Fig. 238 should be provided and made of a size to fit easily. The width and length for this form of chest may be greater if desired than that shown, thus permitting of the placing away of pressed trousers to the full length, also coat and vest laid out, few creases being required.

Now the modern wardrobe is suggested. This should appeal particularly to the masculine mind, for it proves to be a mute valet looking after the master's clothes with unconscious care, for in its appointments it provides for and gives quick access to everything a man wears in the nature of outer garments, with tills for washable apparel. To make this case complete and convenient a generous supply of coat and trouser hangers should

be purchased, otherwise the idea is somewhat defeated. A few single hangers for odd garments and two or three sets of the combined coat and trouser hangers permit of an entire suit to be

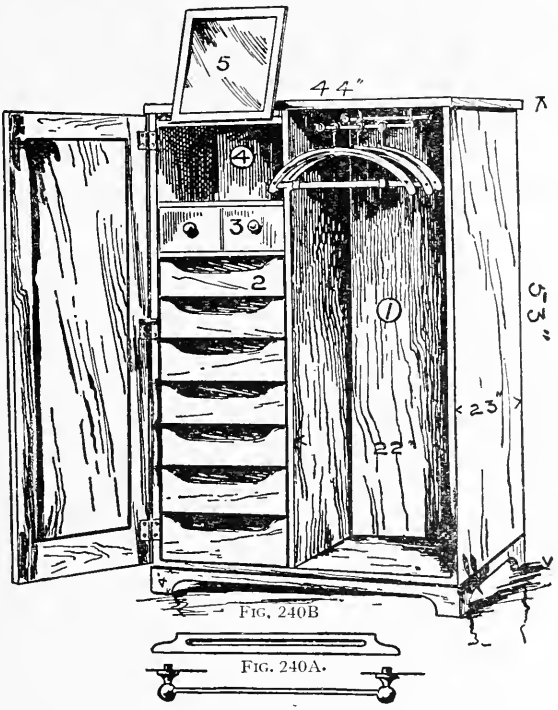


FIG. 240.—Open View of Wardrobe.

hung and withdrawn very readily, while occupying a minimum of space. As these articles are and have been written for the progressive carpenter it is useless to go over the standard form of case construction considered in former articles, and in dealing with the construction of the wardrobe we may be permitted to state that the carcase is built after the manner of all bookcases, wardrobes, etc.—that is, a frame and panel construction, back and sides, with solid top and bottom, doors being framed in the usual manner.

It is quite necessary to draw up a one-half working detail, and from measurements given or setting down such measured changes as individual requirements suggest. The object aimed at when departing from given measurements is to reduce or enlarge proportionately. The dimensions given are ample for the hanging of coats, vests and trousers or skirts at their full length in the division marked 1, while 2 represents light removable tills or drawers for underclothes, shirts and laundered goods. These tills slide on thin parting cleats. The part marked 3 provides two drawers for cuffs, collars and small dressing materials, while 4 will hold two or three hats. Immediately above 4 is a 1 in. space, which allows for a light mirror, 5, to be drawn out and turned up into the position shown for shaving or dressing purposes. A loose pin joint will readily suggest itself for withdrawing to a definite stop.

In Fig. 240A is shown two turn balls and wooden or metal rod, which is secured to the door stiles of an opposite door not shown in the illustration. On the bottom door rail a wooden strip like that shown in Fig. 240B is fastened. These two parts provide for an umbrella rack, which closes in with the door of the clothes closet. A similar rod, like Fig. 240A, may be secured on the upper portion of a door for a rail upon which to hang ties.

After staining and filling, the usual three-shellac and three-varnish coat finish is most desirable. The interior is usually oiled natural color, with three coats orange shellac and an after oil rub.

CHAPTER XI

BATHROOM ACCESSORIES

The Bathroom

NO improvement has excited our desires for nicety more than the introduction of porcelain in the bathroom. It has put an entirely new aspect on the matter of personal cleanliness. We now aim to have every appurtenance in simple keeping with the chaste white tub and bowl—not to say we have hitherto shunned the room and skipped a bath now and then because the tub was of zinc.

Despite predictions, the day has been postponed when metal and other material displaces wood entirely in the bathroom and kitchen of the modest home, however refreshing and in accordance with sanitary ideas, enamel and marble facing would be. The furniture, however, for the bathroom—whether fixed or portable—should be made with easy lines and smoothly rounded or plain flat surfaces; dust will always find lodgment in sharp angles and creased moldings, and become hard set by the vapor from hot water, and for this reason should not be a part of the baseboard and window trim. The bathroom has generally been the designated place for a medicine cabinet, and in later years it has been quite properly a thought-out part of the room, or rather a recessed portion of it, thus avoiding unnecessary projection and additional cleaning surface.

Medicine Cabinets

Figs. 241 and 242 are suggestions for the portable cabinet where no such built-in provision has been made, or where permanency is not desired. The interior planning and arrange-

ment of shelving will be left to individual requirements. The spacing of shelves should, however, be made with some reference to the length of various sized bottles likely to find their way there in bringing up a family, containing remedies for the croup, to preventatives of nervous dyspepsia. The drop-down shelf shown under the cabinet in Fig. 241 may be found of advantage as a resting place in preparing mixtures. Back of this cover shelf may be fitted a nest of small drawers to receive staple remedies or powders, which should not be allowed to lay around promiscuously, and in passing, such a compartment should undoubtedly have a lock, for too often deadly candy-like pills attract childish curiosity and fancy—press notices are frequent of death to children from finding coated pills on high shelves.

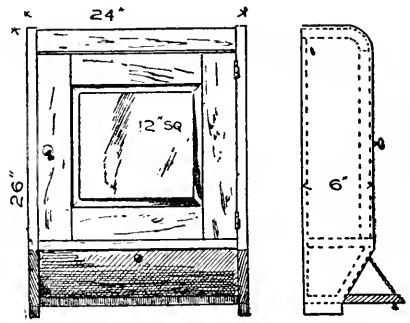


FIG. 241.—Front View and Section of Medicine Cabinet.

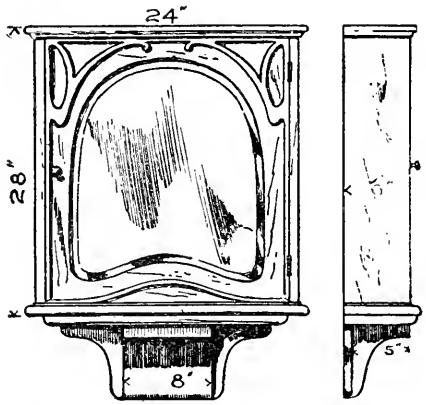


FIG. 242.—Front and End View of Another Style of Medicine Cabinet.

The material for the designs shown in Figs. 241 and 242

should be surfaced to ⅞-in. in thickness. The back of such a cabinet would properly consist of a mortised framing with thin tongue and grooved paneling or a laid-up veneer panel inserted in rabbet. The door is suitably brightened by a beveled mirror as shown, although a bevel panel of selected stock would look well if mirrors are plentiful elsewhere.

The door shown in Fig. 242 is treated with an arched frame and shaped mirror, while the spandrel treatment is made from ¼ or 5-16-in. material, jig-sawed to such a shape suggested, glued and braded to the door frame. This should be smoothly carved or molded in a full half round or oval manner, making it free and smooth to wipe over with a cloth. The consol or bracket-like support will add very much to the appearance of Fig. 242.

Whatever finish is given to medicine cabinets, the same care should be given to the inner surfaces also.

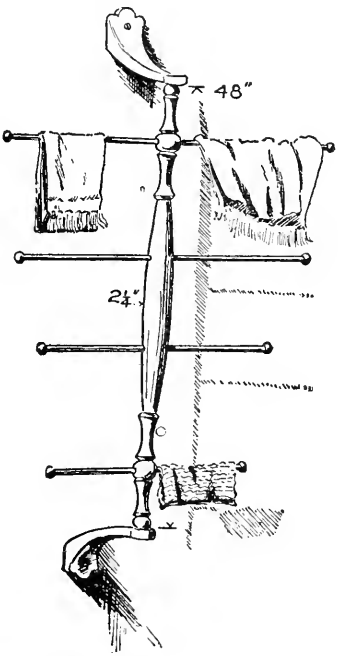


FIG. 243.—Pivot Towel Rack.

Towel Rack

Fig. 243 shows an original suggestion for towels and wash cloths. It consists of turning 2¼ in. in thickness and 48 in. in the clear, with a ½-in. pin turned at each end which sets easily in corresponding holes in wall supports as shown, thus allowing a swing movement to the rack. The wall brackets may be of such a length not objectionably in the way.

Other Shaving Stands

The feminine portion of the household has heretofore had pretty much its own way, or rather, a man's brush and comb and shaving outfit had scant resting place on the dressing stand, and

more frequently were placed on a window ledge or open bracket. To interest the man in having "a place for everything and everything in its place," as it should be, the drawings of shaving stands herewith shown in Figs. 244, 245, 246 and 247 may lead to turning over a new leaf and emancipating man from being of so small importance about the toilet room. You will notice that each one shown is solely for his use, as there can be little room for others moving in when once razor, strop and other necessities are put away, and reawakened interest in making himself fine will return, for you know when a man gets around forty he is likely to forget himself for others.

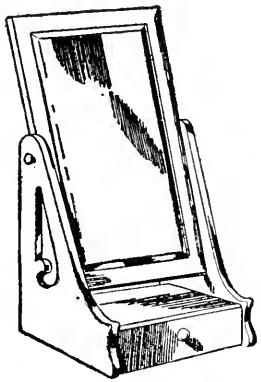


FIG. 244.—Small Shaving Stand.

Considering first Fig. 244, the less pretentious of the four, this is designed as a table stand, or to go on some forms of dresser tops. Where the bathroom is small, as frequently is the case, a wall side giving the best light for shaving purposes, a swinging about device may be attached to bring the mirror before either natural or artificial light. The drawer is for shaving and other toilet articles. The mirror is centered and pivoted with somewhat tight-fitting turned pins, or provided with steel pins and ornamental thumb screws or wheels.

A clean-cut outline of shaving stand is shown in Fig. 245, with a pivoted mirror at standing height. Access to the case is by lift-up lid, shown in detail A, which operates over the case shown in plan B. A lower shelf, one-half of 17 in. in diameter, is provided which will be found useful.

The three curved legs are secured from 1½ x 3½ in.-stock, slightly rounded on outer edges. The two bulged sides of case B may be secured from solid or glued-up stock, band-sawed or shaped out to a diameter of 17¼-in. or two cauls representing one-half of a 17¼-in. circle may be made. Within these glueing cauls a curved veneered panel may be produced which

for this purpose should have a thickness of about 9/16 in., usually five veneers consisting of the selected front veneer of 1-20 in.; a 1/8-in. for the second; a 1/4-in. for the third; a 1/8-in. for the fourth, and a 1-20-in. for the fifth and last veneer. The

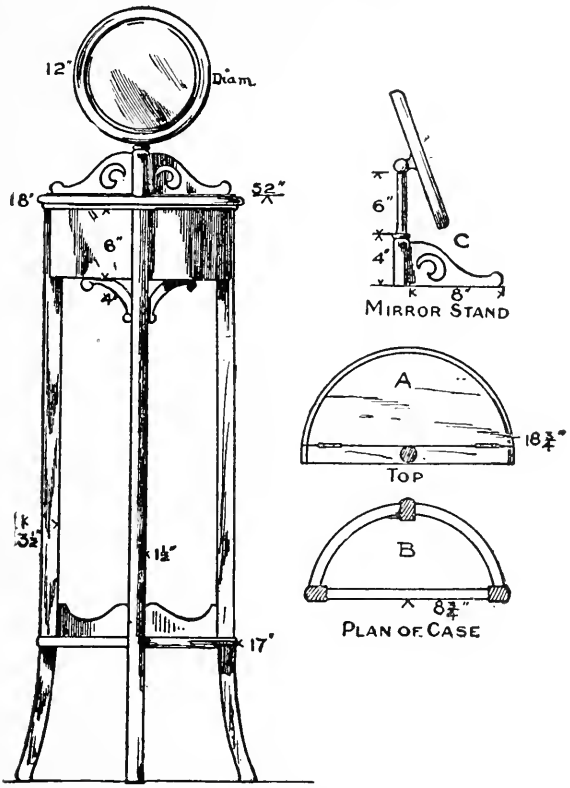


FIG. 245.—Shaving Stand, with Details of Construction.

under veneers may be of an inferior character, generally such "filling" being of poplar, bass, elm, gum or chestnut. Poplar and elm, however, are the most satisfactory in holding their shape. The two cauls, concave and convex, can be cut from a squared glued-up block of pine or poplar about 1 in. greater in width than the veneer will be when trimmed. Scribe on the

edge of the finished block the outer half circle and the inner circle, representing the space to be taken up by the pack of veneers. This block will have to be sawed on a band saw following the two lines thus marked, and removing the equivalent of the veneer thickness. Before the cauls thus made are put to use as conforming blocks, coat the curved surfaces with raw oil or grease, allow it to soak in and then wipe off. This will prevent any excess glue from sticking or going through the veneers holding down the work when you are ready to remove the pressure.

The veneers should now be laid out on a table or bench in the order in which they are to be bent. In passing it might be remarked that the all-important point to be remembered is that veneer work should be carried on in a very warm room, and everything coming in contact with the veneers, and the veneers heated to a decided warmth also; then with the concave caul uppermost in readiness, the first or outer veneer with grain horizontal is quickly brushed over with the hot glue, not too thick, and laid on a little in excess. Upon this the first filling, one-twentieth, with grain running horizontal. The upper surface of this is now treated in like manner to glue; then lay over this the ¼-in. veneer, grain vertical, apply glue to this, and lay on the other ⅛-in. veneer horizontal, glue and follow by the fifth and last veneer, a 1-20, with grain running vertical. All this having been done without waste of time, or any draft playing on the work, lift the flat pack of veneers and press them into the concave caul, keeping them squared and reasonably well together; then insert the warmed upper or convex caul and have ready some means of pressure which can be maintained for a period of 12 hours or more. For temporary purposes this may be effected by rigging up some form of lever which may be held down by a chain or notched timber in place of the more effective screw press used for such work. When proper time has been given for the veneer shell to dry, remove and trim to the 6-in. width required for the case. This curved panel can either be cut in two and parted by the front leg, as shown in B, or that leg may be relished out from behind and the full half circle of veneer be

used. This will make a smoother inner surface to the case, and for this reason there is much to be said in favor of using laid-up stock for many forms of case work, while beauty of figure, low cost and strength are also in its favor.

The curved mirror frame is 12 in. in diameter and shows an exposed wood rim of 1 in. in width. The frame is made of four

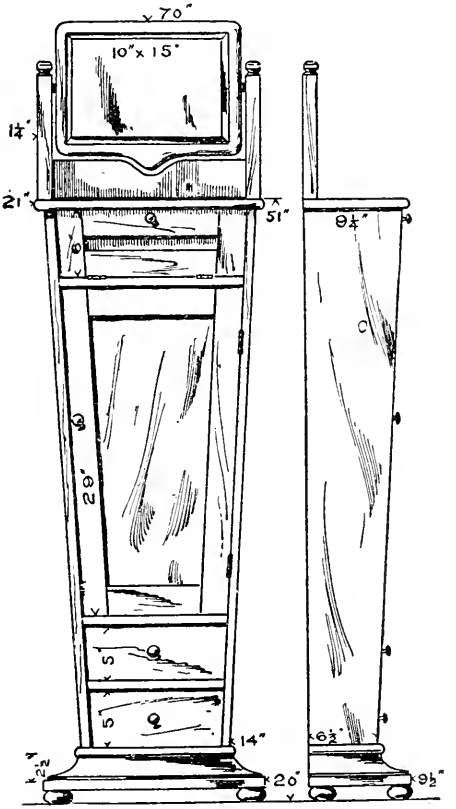


FIG. 246.—Front and End Views of Toilet Shaving Stand.

pieces, felloe jointed. Various devices may be adopted to permit of the mirror being tilted up or down, or on either side of pillar or stanchion. A simple way would be to bore out end of

pillar and turn a hard wood pin and ball to fit firmly but loosely, the ball part cut with a saw kerf to insert a metal lug fastened to frame as shown in C. A small bolt and thumbscrew passing through three parts will hold the mirror at any up and down angle, when it then may be swung to the right or to the left. The stand represented in Fig. 246 will be found a most serviceable one for the bathroom and bedroom, as all space is made use of. Little need be said about this to enable those interested in making a full working drawing. Much of the lesser detail is left out in this and many other illustrations heretofore accompanying these articles, for the purpose of allowing individual expression to assert itself in preparing the working drawings of either this or modified forms. A craftsman frequently has hoarded up stock, or possibly other parts of furniture which will lead to creating a structure on original lines—this should be the uppermost idea—putting yourself into the work. In doing so, however, do not create or borrow ornament or features having no reasonable excuse for their application.

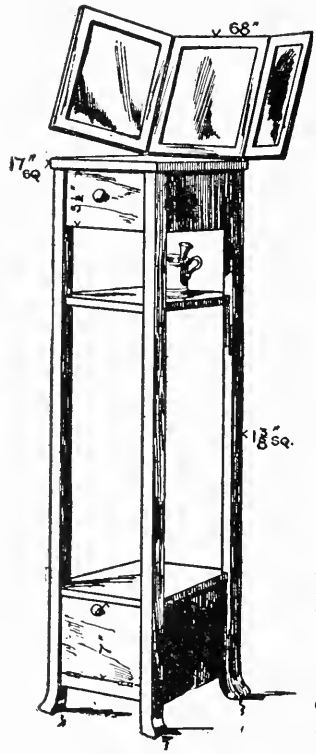


FIG. 247.—Another Design of Toilet Shaving Stand.

The toilet stand shown in Fig. 247 is expressive of the present style of absolute serviceability arrived at in the most direct way. One will never tire of such a piece through changing styles, as there is nothing about it to offend—honestly made and well finished it improves every time it is rubbed over with a polishing cloth.

CHAPTER XII

CERTAIN KITCHEN ACCESSORIES

The Kitchen

SYSTEM and convenience should be the dominant idea in the kitchen, for without it there is just as much waste of time as would probably occur in a poorly equipped office. In times past it has not been so much a lack of woman's inventive ability as it has been a want of interest on the part of her handy husband to give ear and put into execution many ideas which have lain dormant, for who should know better what was wanted to lighten and facilitate the repeated operations in and about the kitchen than the good housewife?

The card file system is now in use in the kitchen, and while the skilled housewife from home training may smile at this way of keeping in touch with her many possessions, or the whereabouts of the true and tried recipe passed along verbally from mother to daughter, yet given a fair trial the small drawer of file cards should have a place in the kitchen as well as in the office, even though solely used for recipes and not for statistics of living expenses.

Many manufacturers have in recent years recognized the hitherto helplessness of the housewife as to her kitchen appointments, and really the thought has been considered more by the manufacturer than by the architect or builder, with whom it should have had first attention. The kitchen cabinet is the result, a "much in little idea," which certainly is a welcome addition to the working equipment of a kitchen, for how often is a rear room designated as a kitchen, the only indication that it is such being the sink and water supply with a few misplaced shelves insecurely arranged in a closet styled the pantry?

For a small family, and those who rent, the kitchen cabinet, Fig. 248, is a welcome accessory to preserve order. Bringing the necessaries into immediate focus, as it were, for the prepara-

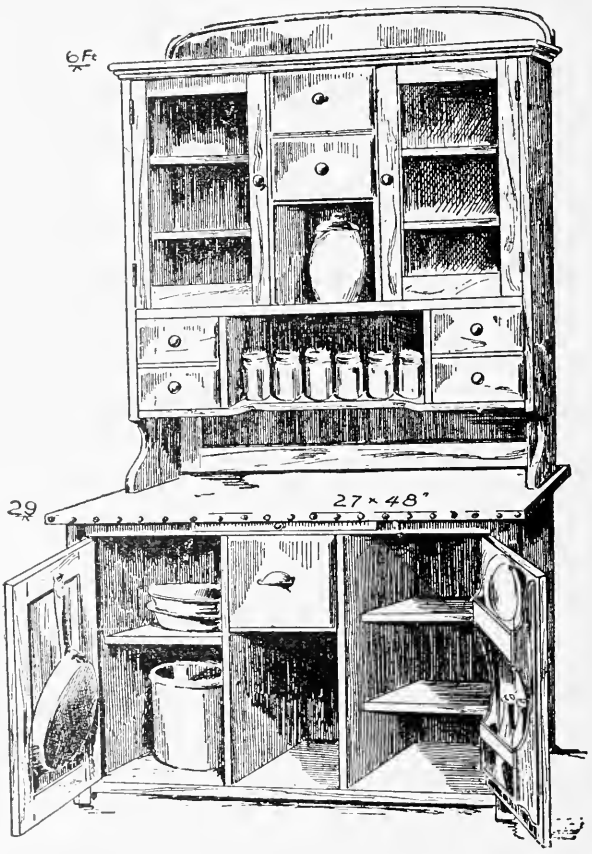


FIG. 248.—Kitchen Cabinet.

tion of meals. Forethought should be observed in the purchase of a cabinet that one of ample proportions be obtained to provide space for working equipment without over crowding, otherwise the orderly idea is defeated. Were it not that these ar-

ticles are addressed to the artisan—the man who is desirous, apart from the economical consideration, to furnish his home with furniture of his own design and construction—the cabinet obtained from a dealer would be very satisfactory, as generally they are well made. The mechanic, however, has great personality and inventiveness, and has little patience with made up "boughten" affairs which do not meet with his ideas and possibly do not come up to the requirements of his family needs. Analyzing the kitchen cabinet, it is found to be an evolution of the common kitchen table making all one can out of the space underneath, and adding to, from the top, as much as fancy and sense of proportion will dictate. Herein some study must be made, laying out the general lines on paper, and arranging spaces not according to your whim, but guided by the requirements of the better half—her ideas should prevail. Every housewife becomes attached to certain kinds and sizes of utensils, and would feel handicapped, as the carpenter would, were she compelled to use an unfamiliar implement. With this in view the various drawers and compartments should be made in consideration of this thought.

It will be found on examination of some styles of cabinets that the drawer idea has been overdone, frequently drawers being so small that they become awkward square holes for some unspecified objects to go in and a matter of great difficulty to get it out. They may on first sight be considered "cute", but are soon found to be valueless. It is better in caring for some of the smaller articles or supplies, to arrange for a larger subdivided drawer.

Special cleats and hooks will be suggested as the personal idea of the cabinet is evolved. Spice boxes, tea and coffee canisters, may now be bought in uniform sizes and patterns, which will add materially to the general orderly effect, and should be considered in preparing shelf space. In some compartments a movable shelf will be found convenient, that is, resting on a cleat fitting at intervals into vertically notched side strips as in a bookcase. A one-piece sheet of zinc will be found a more satisfactory table covering, being more readily kept clean and bright

than the bare wood top. The apron or top rail under table top should be cut out the width and thickness of the proposed bread or moulding board which when not in use finds a place well out of the way, or may be pulled out two-thirds its length as a table extension for various cooking operations. It might be well to provide an inserting pin or some check to avoid the board being accidentally pushed in. The small bins made for the different kinds of flour should have a rounded bottom of veneer or zinc, so that the last dipper full may be readily picked up, the flour always settling to a center.

Owing to the scarcity of bass and white wood, gum has been much used in making kitchen cabinets and other fixtures, the greatest objection to it, however, being its disposition to warp and twist if not quickly finished. It is a pleasing finish to leave it natural, giving it a coat of boiled oil, two coats of shellac and a final coat of varnish.

The movable cabinet will always find a place in the kitchen of many homes. As a complete repository, however, it will be found inadequate where extensive work is to be done and will fall short of expectations as did the small writing desk before it gave way to the better adapted form of home desk.

As a solution to the most concentrated disposal of all that pertains to the kitchen, aside from a possible chair and movable towel rack, the illustration, Fig. 249, of a part interior is offered. This is submitted to the carpenter and builder as a suggestion which may in most cases be installed in many kitchens or be provided for in the plan. It would be a matter of appropriating from 16 to 18 in. of floor space, in building a battery of cupboards and drawer divisions as indicated, or according to requirements, and personal judgment. It will be seen, and greatly appreciated by the housewife, that on sweeping and scrubbing days the floor space is entirely free from furniture moving, and everything up in its place guarded from dust.

Several divisions in the illustration are shown without doors to suggest their possible use. Herein feminine counsel should be sought that the most frequently used articles be located within free reach, and such things as fruit jars and infrequently used

supplies and utensils find storing space on the upper shelves and drawers. As indicated in the illustration an open compartment

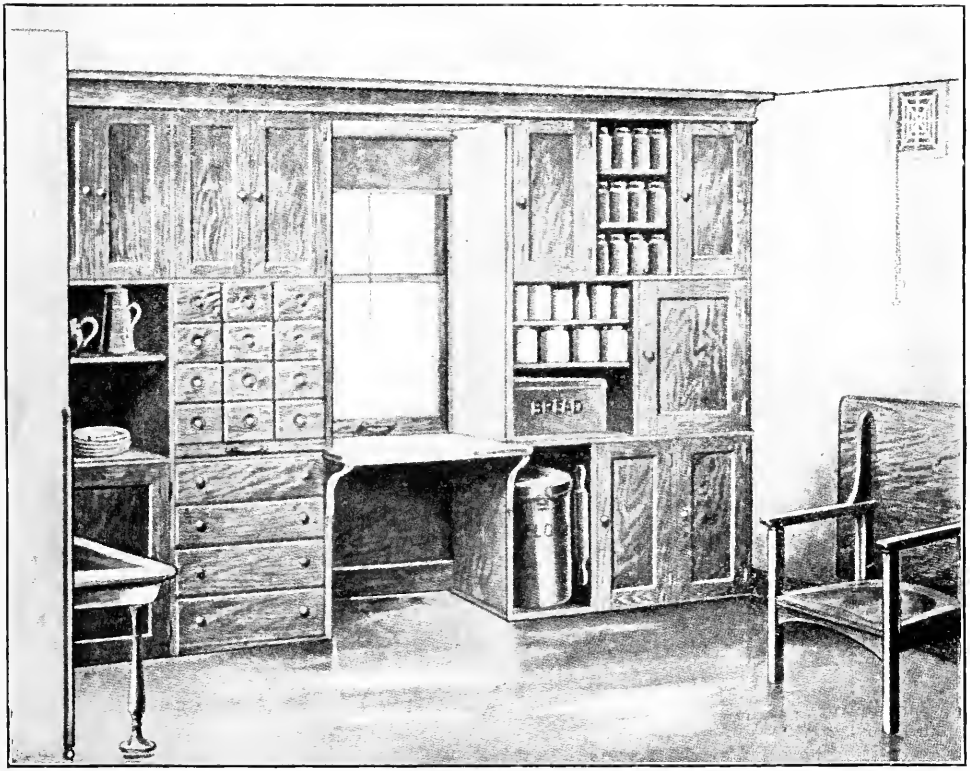


FIG. 249.—Partial Interior View in Kitchen, Showing Equipment.

might be found better for the coffee and tea pots to receive all the airing possible between meals. In this instance it is immediately over an open space above the sink drainboard. In establishing such a system of shelving it should, of course, be built about a window, and a wide working shelf set in front of the light whereon bread making and other operations will be carried out under the best light possible. Supplementary to this a drawout board shown on the left will always be found serviceable.

This should have a strengthening and extension device similar to a table expanding fixture, or in place of this, as the board is drawn out to a proper stop, two light iron rods or sticks come with it, which can be inserted in catch or over pins thus supporting the board as a bracket.

A proper covering for the window table is of one piece of zinc. In fitting this it can be so cut full between the jambs of cupboard, that when pressed down to the surface, the two side edges are given a slight up curve, tacking with brass-headed upholstery nails. This provides a smooth, rounded edge which will wipe out clean, far better than if a square corner were made. Sufficient margin should be allowed to turn down in front and around the projecting ends. A paper pattern tried in this manner over the proposed surface should at first be cut out. As zinc responds very readily to bending, this will insure the exact size to give a workmanlike result. Brass-headed nails properly spaced along the front will add a pleasing finish. As will be seen, the main construction consists of upright boards gained out to receive the horizontal spacings. A cove moulding had better be turned out as a proper finish under ceiling and from this put in headings. Seven-eighths-inch lumber will be sufficient for the framing and door frames. Where veneer panels can be obtained they will be found desirable for door filling and add much to the beauty of the finished work on account of the varied figure in the veneer. These panels may consist of two outer 1-16-in. and one middle ¼-in. filling; they may be cut to a rabbet size for the frame, using a one-quarter round mould to hold it in place, or they may be glued into grooves when the frames are made up.

As to the small drawer ends, a neat way to provide a pull is to turn it in as is frequently done, brass or bronze pulls being used for the drawers and turn pulls for the paneled doors.

For temporary needs or to supplement a well furnished kitchen, Fig. 250 is offered, suggesting the ordinary kitchen table converted to a cabinet containing compartments suitable for a small family need of having the unsightly articles away from view.

As these tables generally have turned legs a squared filling-in strip is screwed to the turned part from which the carcase work

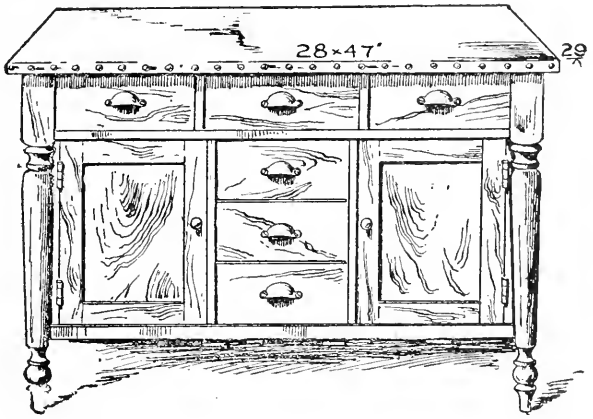


FIG. 250.—Cabinet Built Under Kitchen Table.

may be added as shown. This is a beginning for a fully developed cabinet, as shown in Fig. 248. The upper portion can

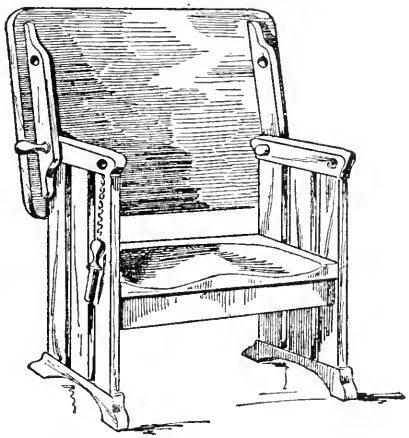


FIG. 251.—Kitchen Table Seat.

be added at any time, and following out a well studied plan of personal requirements.

The kitchen settle in Fig. 251 will be recalled by many as having a double purpose, when on ironing and baking days the top was turned down, converting it into a substantial table, and again at night it became Bridget's Davenport for her gentleman friend. The top is usually 28 x 46 in., and stands 29 in. from the floor, the seat being 15 x 32 in., and at a height of 17¾ in. The entire construction may be made of 1-in. dressed lumber, or the feet, arms and top of 1⅛-in., and the other portions of 1-in. stock. Loose pins secure the top to arms or allow it to swing back as shown.

CHAPTER XIII

BOOKCASES AND HOLDERS

The Bookcase

IT was a happy thought that brought about the bookcase of finished units, or sectional device, for storing books in a protected way with the thought of adding in height or walling the room, if desired, as the number of books increased. Of this form of construction little but a commending foreword can be written, as the idea is at the present time protected by patents, and the success of the thought has brought about the usual crop of infringement suits. However, no idea is from the first perfect and from someone an even better case might be evolved

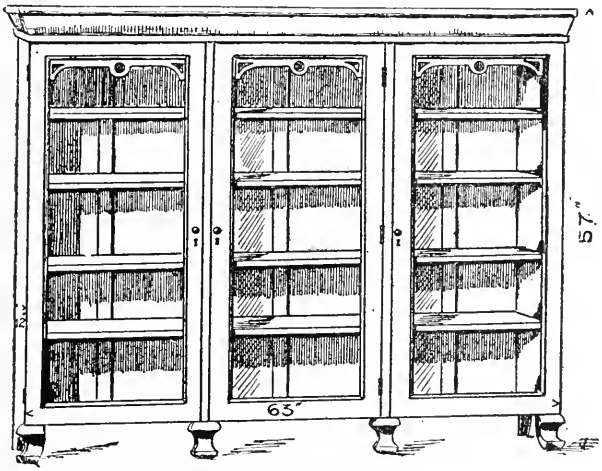


FIG. 251A.—Family Bookcase.

The family bookcase is well illustrated in Fig. 251A, and should the said family be of a bookloving trend, two or more of this type will probably be needed, or a room as a library, fitted with the

sectional cases, be considered a necessity. In a way it is unfortunate that the magazine habit is so time-consuming that good enduring reading in bound form is less sought after by the present generation, with the result that a magazine rack is more to the purpose than a case for books. With this thought Fig. 252 is offered, giving book space in upper portion and a greater depth to the carcase below for all average-size monthlies. With

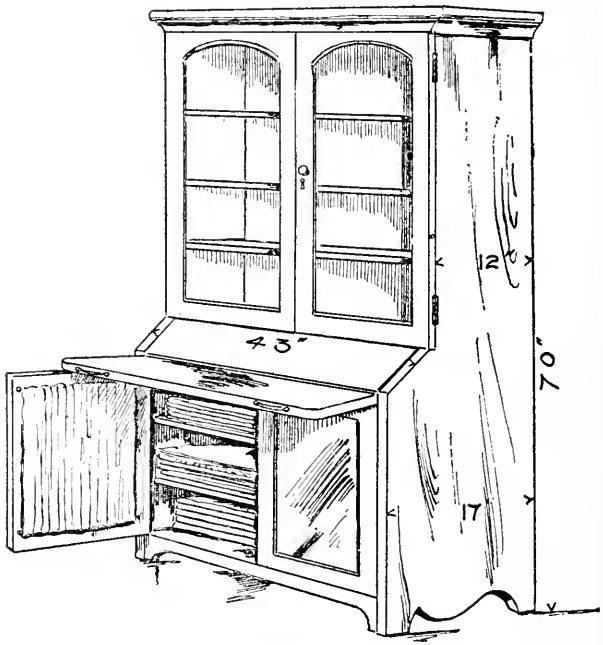


FIG. 252.—Combination Book and Magazine Case.

two framed glass doors, the unsightliness of thumbed-over periodicals may be altogether shut from view by securing a piece of shirred silkaline or other goods of pleasing figure fastened by a light rod over the glass on the inside of door frames. Immediately over the doors above the top framing of lower case a draw-out board may be planned for, which will be convenient for resting books or papers when drawn out in case of consulting several volumes.

One of a studious disposition will find the combination case and writing desk shown in Fig. 253 will meet his requirements, or be useful in making up his accounts and transacting other business. Under the desk will be found drawers on each side of

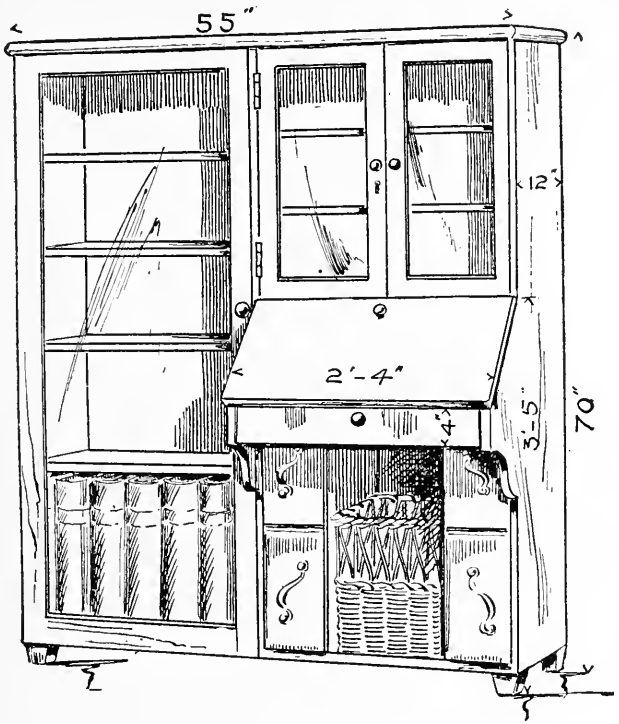
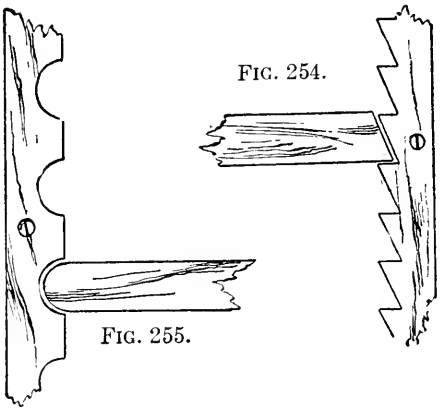


FIG. 253.—Combination Case and Writing Desk.

the middle knee space which are deep enough to hold the alphabetical letter-file books of such convenience in filing away letters, contracts and other papers. One or two drawers may be fitted with filing cards, for there is hardly any line of business in which these very accessible cards cannot be used to very great profit. Spacing and size of drawers must be decided by individual requirements. The lower bookcase division should properly be spaced for a set of encyclopedias or larger dictionary,

confining weight and size to the lower shelves. No bookcase should be made without several of the shelves resting on movable cleats, permitting of raising or lowering or removing. The saw-edged strip shown in Fig. 254, with loose cross strip fitting



Figs. 254 and 255.—Showing Two forms of Shelf Supports.

the notches, or a form similar represented in Fig. 255, on which the two strips are given the half circle notches by clamping them edge to edge together, and boring at intervals 1 ⅛-in. holes along the line of joint. The supporting strips are then rounded on ends to closely fit the strips when fastened on the inside of ends.

Several pigeon holes and a drawer for writing materials may be fitted within the writing desk portion confined to the width of the case only and suspended 5 or 6 in. above the writing table, of which the slant cover shown when drawn out level gives the greatest surface. The under drawer may be arranged to support this lid in a writing position by drawing it out, or the lid may have an elbow metal joint fitted to both sides closing in out of view with the cover.

The form of construction in general use for such structures as Figs. 251A, 252 and 253, as well as most all case work, is to build in the outside against a made-up framing indicated in Fig. 256.

The material used for the back is of an inferior wood, and the thickness commonly used for the framing is 13-16 in. for the stiles and rails, which, after being mortised and tenoned, are grooved out from end to end on the inner edges, into which, in setting up the framing, 3/8-in. bass or whitewood panels are slid, forming a quickly made and very light backing to all classes of construction. The ends of paneled framing are treated to a long tenon to fit coreresponding groove in posts. One or more 13-16 in. stiles should be grooved in properly spaced frames of considerable width, as shown in back of Fig. 251. This gives rigidity and prevents wide panels of cheaper wood from warping and shrinking into open cracks.

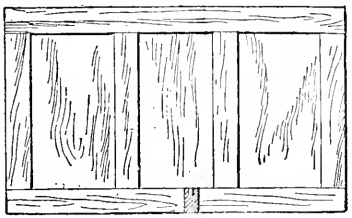


FIG. 256.—Showing Panel Back.

In chiffoniers and dressers having considerable depth, the sides are built after the same manner as the back. The bookcase, however, does not require any greater width than average board width, and a one-piece effect is sought for, so that the case is made much after the manner of a box with the inner back edge rabbetted out to receive the back frame, and the top and bottom boards fitted on a line with this rabbet permits the back frame to be set in neatly and tightly screwed-through rails in edge of top and bottom and into rabbet of ends.

Little need be said about the door frames as there is only one recognized method. For bookcases the framing should be narrow to properly display book titles. The trimming at top of doors in Fig. 251 is a superficial ornament cut in 3/4-in. material and glued in after the glass has been set in back of glazing strip.

To bar out behind apparently locked doors every book in the house is to rob the home of much of its hospitable character, but for those who truly love books as well as for the children who are acquiring the habit of reading, many books will surely find their way about the table. Three forms of stands which will be found convenient for use are shown in Figs. 257, 258 and 259, those in

Figs. 257 and 259 being elastic, and that shown in Fig. 258 fixed, and more frequently being utilized for some specified set of

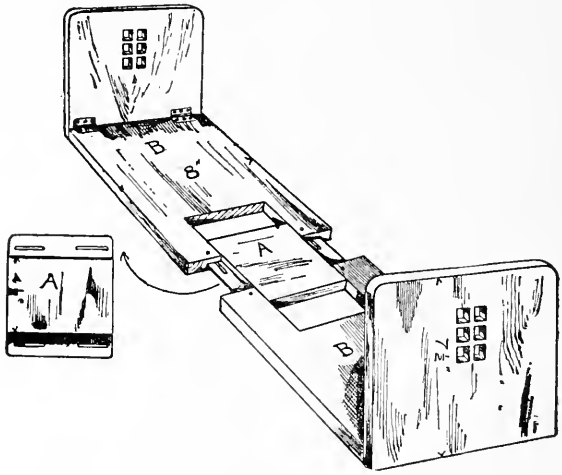


FIG. 257.—Book Stand.

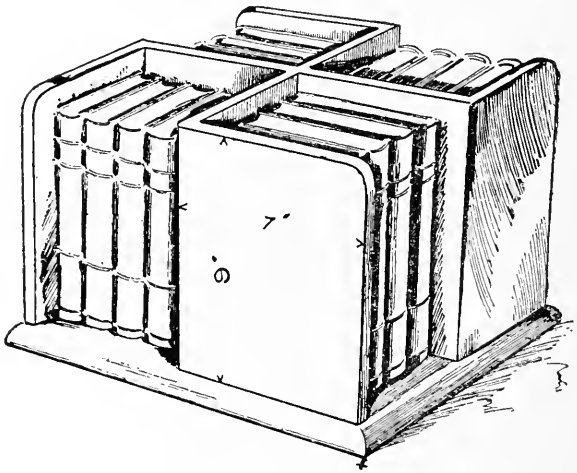


FIG. 258.—Another Style of Book Stand.

books. A few suggestions as to Fig. 257 will probably be all that is necessary. The easier way to cut a groove or saw cut in

projected ends of bottom boards, B, to receive metal projections shown on both ends of middle, A, would be to joint up three pieces in the shape of B, allowing such a kerf to be cut on the inside edge of the two outer pieces shown in the cut. When A is inserted a neatly set rivet brad enters the wood through slots shown in A, preventing slide passing a fixed position. In a full opened position there is of course no great lifting up strength to this rack, it being intended to lengthen or shorten the rack by the adding or removing of a volume as it stands on the table. The books are generally placed with title hinge up, or they may

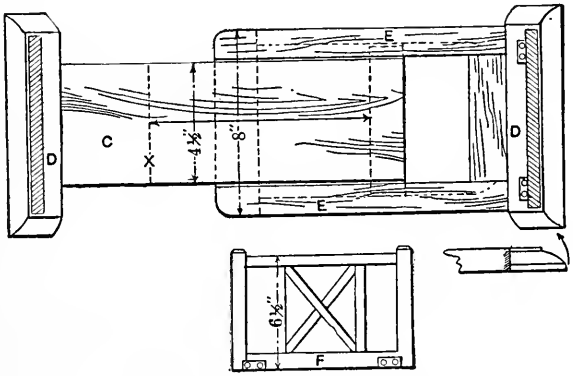


FIG. 259.—Closing Book Stand.

stand erect with titles facing out. The construction of Fig. 259 will no doubt be stronger and have greater extension. C is a board tenoned into molded end D. This board may be made of three pieces, making a full thickness of 1 in., the middle piece ⅛ in. thick, terminating at the letter X or dotted line, and a similar filling piece 3 in. wide glued and closing up the end and projecting to fill up the groove marked in dotted lines on outer pieces E, tenoned at one end in molded end D, and slotted out to receive a ⅛ x 3-in. strip to slide loosely in slot in board C. This strip is to be glued into ends, E, C, and E to be parted sufficiently to slide smoothly. Soapstone or soap will permit of a fair joint and smooth action to such work. F shows a drop-down hinged end secured to ends D. Many modifications may

be given to this end—a solid board with some suitable outer shape, a little interior cutting, or applied ornament, suggested or adapted.

A Combination Bookcase and Writing Desk

Mission furniture is now so prevalent in many homes that Fig. 260 is introduced as embodying important features that a busy man or woman finds necessary when some of the day's work of writing or checking over accounts must be continued during the home hours. As shown in the sketch there are two book-

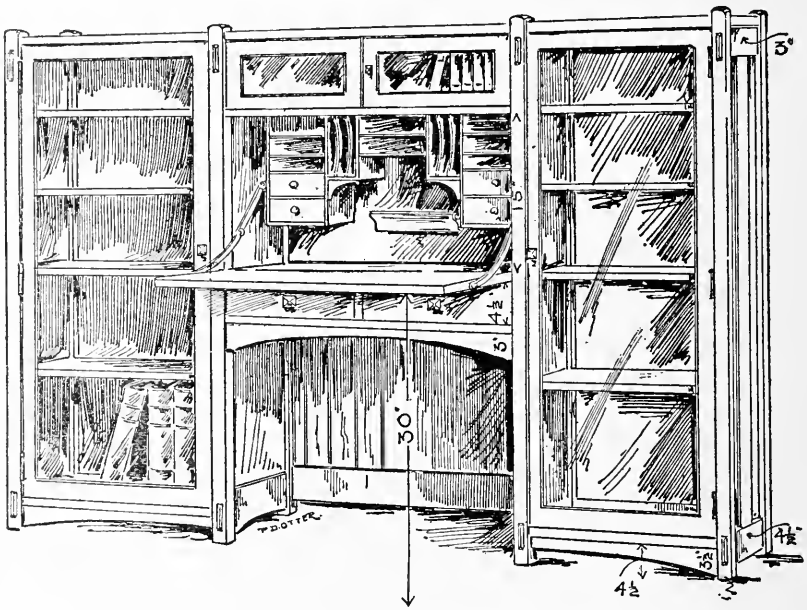


Fig. 260.—General View of the Combination Bookcase and Writing Desk.

shelves at each side of the writing desk with an overhead continuation of book shelving having a set height for smaller books. According to the half carcase plan in Fig. 261, the position of the corner and intermediate posts are clearly indicated, leaving an open foot space in the middle front under the desk as may be seen from an inspection of Fig. 260.

The connection between the four book posts is made by constructing three paneled frames of ¾-in. material and stiles and rails 2½ in. wide. The stiles project and are fitted with tenons, the top and bottom to enter mortise cuts in the posts, which are 1½ in. square and 56 in. long. In laying out a rough working drawing the outside measure of the case will be 14 x 65 in. and

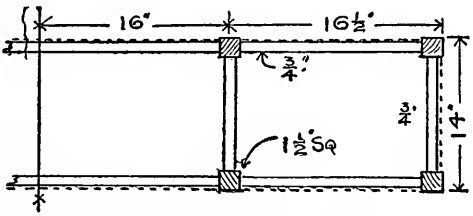


FIG. 261.—One-half Carcase Plan.

the top board arranged to fit in about the top of the posts and secured to the top of the back and side framing, will measure when finished 1 x 13⅞ x 64¾ in.

The end rails of the bookcase, top and bottom, are provided with sufficiently long tenons to pierce the thickness of the posts front and back and be chamfered off with a dull taper. To further secure the framing holes may be bored after gluing up to provide for two dowel pins to each joint, these being smoothed off flush in the final finish. The end filling consists of a middle mullion over-laying the joint of two thinner panels or it may be a panel of one thickness as may be desired. After the bottom boards are fitted over the curved apron under the bookcase the construction will then be far enough along to make and fit two doors which are frames made ¾ x 2¾ in. when finished. Above the desk compartment it will be noticed there is a continuation of the book shelf space measuring 9 in. in height provided also with two glass doors 9 x 15¼ in., meeting in the middle of the entire case. These doors are made of the same framing as the two larger side door frames; that is ¾ x 2¾ in.

Four loose fitting shelf boards ¾ in. thick will about divide the space properly for books of varying heights, the shelves being

adjusted and held to different spacing by the small metal rests inserted in holes in the posts or on the inside of the ends.

The writing table is 30 in. high (if casters are used allow for them) and the writing flap proper is the front cover of the desk set on hinges to the writing bed and let down, being held in a horizontal manner by elbow-joined brackets made for this purpose.

As a becoming cover for such a piece of furniture a framed-up panel door ⅞ x 15 x 30½ in., the framing of an even width of 3 in. for stiles and rails, could be made, which, before gluing up, fit with an inserted panel having the front face treated with a long low ogee shape similar to the back of a violin—see section in Fig. 262. This can be brought about by the use of a paper template and a curved spoke shave or gouges and a steel scraper.

The two side compartments measure 7 x 9 in. outside with a

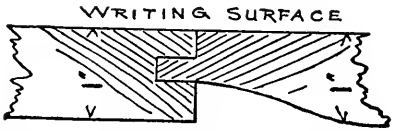


FIG. 262.—Showing Section of Writing Panel.

depth of 9 in. They are made of 5-16-in. material and have two lower drawers with a front width of 2¼ in. The center compartment, 5¼ x 16½ in., may be divided into vertical compartments by ¼-in. panels suitable for holding the larger size business envelopes or some of this space may offer room for two more smaller drawers, according to individual desire.

CHAPTER XIV

FURNISHINGS FOR THE PORCH AND GROUNDS

WHILE the American people pursue their business with great intensity, there is much evidence in every direction of real interest in the study of comfort and bodily relaxation in out-door life. The marked reformation in park management, the working together of landscape gardener and architect in providing attractive and suitable benches and settees of a durable and attractive character, has influenced greatly the makers of portable summer furniture as well as creating a desire for other forms which are more massive and fixed, of which this article will treat.

The benefits of out-door life can be enjoyed much later in the fall and even during some rare mild sunny days in the winter if a sheltered nook or angle is taken advantage of for a permanent seat or settee. This is one of the features left out of the modern home and its surroundings—a feature which gave such a rare charm to the Colonial place, with its door stoop, settees, or the seat under the grape arbors.

A primitive form of bench seen in old Germantown, Philadelphia, inspired amplifying the original mechanical idea until it resulted in detail shown in Figs. 264 and 265, and the completed bench pictured in Fig. 263.

The original stood weather-beaten yet inviting out on the open lawn nearby a box hedging. It consisted of two wide end planks and cleats placed V-shaped on the inside above the seat, so as to allow the loose bolted stanchion supporting the back to be swung either way. This feature was attractive as it allowed one to enjoy the view in two directions.

In Fig. 263 is shown the improvement on this simple idea by having the back rack A of Figs. 264 and 265 hang loosely on a lag screw at E of Fig. 265 at top of the swinging stanchion B,

FIG. 263.—General View of a Garden Bench Having a Reversible Back.

Fig. 266, the bottom being controlled to a more comfortable back inclination by a loose fitting steel strap C, of Fig. 266, which has a screw-head slot which slips over a round head screw in the lower part of the stanchion as shown. Such an adjustable back does not require the seat to be wider than 15 in. The seat consists of a 1¾-in. thick plank with a number of ¾-in. holes bored to drain off the rain, and the 3 in. wide front aprons stand off the width of ½-in. cleats, leaving several long slits for snow and moisture to pass off. The bench was given four coats of white lead and provided with four well painted 1¾-in. square pointed pickets, carefully driven in deeply into the ground, so that they lined up true with the front and back edges of the plank ends of the bench, which also were 1¾ in. thick. A hole was properly

bored through each picket and a smaller hole into the bench end to receive a 5-in. lag screw drawn up tightly against the washers.

When it is desired to change the position of the back to the opposite direction the two iron catches C are disengaged from

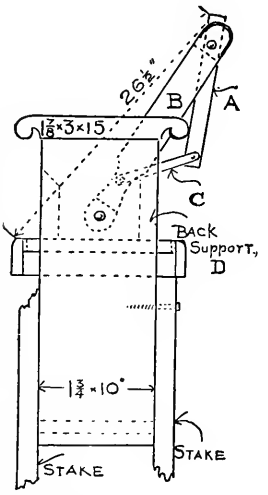


Fig. 264.—End View of Garden Bench with Reversible Back—Scale ¾ in. to the Foot.

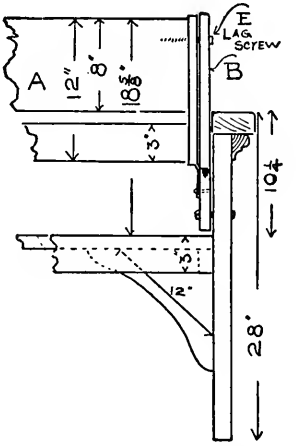


Fig. 265.—A Portion of the Front Showing Dimensions of Various Parts—Scale ¾ in. to the Foot.

the slot and drawn over round head screw, when the entire back, together with the swinging stanchion B, may be swung over until it rests on the opposite back support block D, shown in dotted line on Fig. 264. These blocks are 1⅜ in. square, and have the same bevel as the inclination of stanchion B. They are, of course, the important part of the construction, and are secured firmly by two countersunk screws in each block. A quarter round should be given the edges of these blocks, as well as to the edges of the seat on both sides, the arms and the edges of the stanchions, so that they will

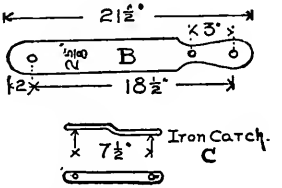


Fig. 266.—Plan of the Swinging Stanchion "B" with Various Dimensions, Also Details of the Iron Catch "C"—Scale ¾ in. to the Foot.

not be unpleasant to the touch after being painted. To safeguard spliting from exposure, a piece of No. 18 sheet brass was fitted over the rounded ends of B and secured by small screws. A thin carriage bolt was also run clear through on the inner side of the loose bolt holes. This prevented any possibility of splitting. The stanchion was made of maple 1 in. thick. The back boards of the back A, shown in Fig. 265, are 1¼ in. thick and are secured by long countersunk screws to hard wood end strips 1 x 1½ x 12½ in. Through this and into the top panel a lag screw at E enters from B and is drawn up against intervening washers just tight enough to allow the back panel frame to operate easily. A cross cleat and heavy wood brace, as shown under the seat, give the bench added strength.

As to the length of the bench, it may properly be 42 or 48 in. Pine is a suitable wood or well selected cypress with oak arms.

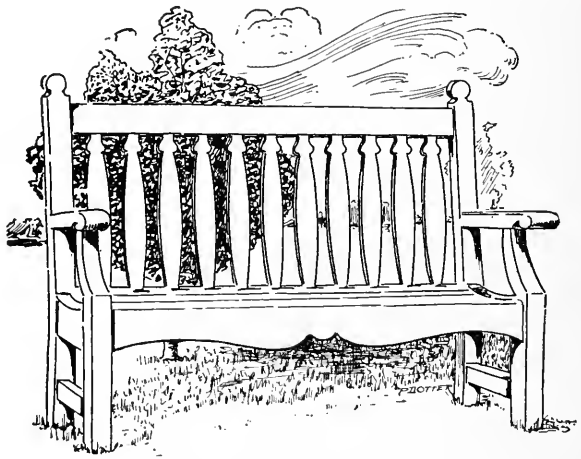


FIG. 267.—General View of a Garden Settee.

The garden seat which has been in use in England many centuries is shown in Fig. 267. There is nothing trifling about it as it is made of heavy parts and so constructed as to throw off water. When kept painted it presents a dignified and restful appearance along the garden walk, or placed in some particularly attractive place against a hedge on the lawn. Many modifica-

tions can be made from the general measurements given, as shown on the end view drawing, Fig. 268. Four horizontal bars may take the place of the splat back filling, as shown in Fig. 267, or two panels of criss-cross bars may occupy the back. A varied top line to the top slat may suggest itself as indicated in the bottom edge of the front seat rail. Some old English settees had a bunker space immediately under a hinged seat, where a croquet set would be at hand if wanted. This could very well take up the space down to cross strainers on the ends. Well selected timber should be used, cypress being good wood for the front and back posts, as it withstands rotting better than most woods.

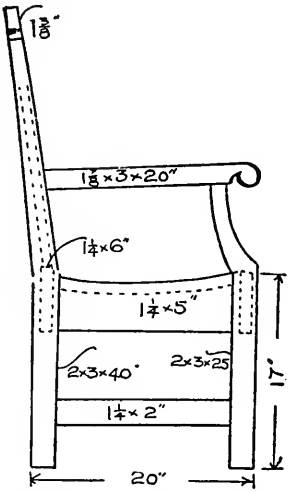


FIG. 268.—End View of Settee Shown in Fig. 267—Scale ¾ in. to the Foot.

If it is possible the back posts should be secured from a pattern drawn within a surface of 3 x 5 x 40 in. and the front post within a surface of 3 x 4 x 25 in. drawing and cutting out patterns to shapes shown. They can then be marked out on a plank 3 in. thick with a reasonable reference to position of grain.

The seat consists of slats 1¼ x 2¼ in., kept apart about ¼ of an inch, the latter being secured by countersunk screws to the seat cleats, taking the shape of end rails, as shown. The splats shown in back should be ⅞ in. thick and 2¼ in. wide, mortised with a heavy tenon to the top slat and back seat rail. All tenons should be long, or go clear through posts, set in white lead and secured by dowel pins. Heavy corner blocks should be placed at each corner under the seat. Before painting several coats of white lead it might be well to have posts stand in a pan of creosote or tar.

Time was, not long ago, when the worn-out old sitting room chair relegated to the attic was dusted off every spring to do

crippled service on the porch during the summer. As much of such furniture depended originally on the honesty and integrity of glue under sheltered conditions, they often proved unequal to many summer showers or even the dews. Fig. 269 shows two simple forms of easily constructed out-door pieces, intended to be bolted and treated to spar varnish, or, better

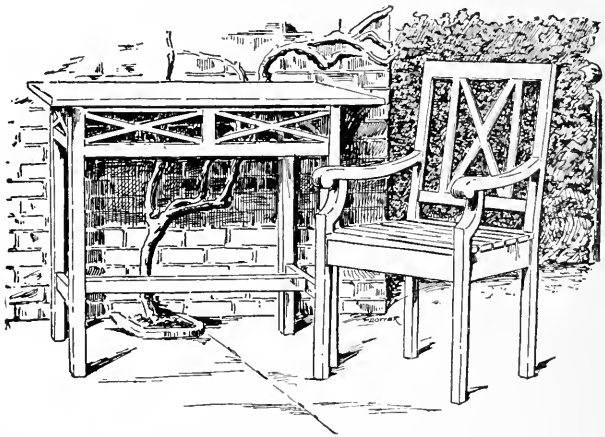


FIG. 269.—General View of a Garden Table with Appropriate Armchair.

still, made in pine or cypress with good fitting tenons and heavily painted. It is unnecessary to go into much detail except to say that the table would look well 30 in. high and with a top 25 x 36 in. and posts 2 in. square.

The chair should measure 20 in. between front posts and 18 in. between back posts, both set parallel. The back is to be 22 in. high from top of seat. The seat is 19 in. deep and to stand 18 in. at front edge from floor. Cut off the back posts ¾ in. at floor when finished, to give the proper pitch. The arms are 9½ in. high at front and sawed out as shown from stock 2¼ in. wide. The front and back posts are sawed out of 2 in. stock. The seat slats are ⅞ in. thick by about 2 in. wide, parted by ¼ in. Corner blocks should go against the 4 in. seat rails underneath the seat.

It is frequently desirable to have a settee which possesses a feature such as the criss-cross in table and chair of Fig. 269. Such a settee with a total length of 48 or 60 inches may readily be planned, having three or more cross panels similar to the arm chair shown.

Furniture for Porch and Lawn

Each year that passes witnesses greater comfort in the arrangement and equipment of the porch of the modern dwelling and about the lawn, or shall we say the grass plot, for many of us are within the high-priced territory of the city or town, where the usual 25 x 125 feet marks a man's estate. On this fixed boundary there is little space in front of the porch or in the rear to furnish with portable or fixed furniture, such as one may see about a large estate. Indeed it would be pretentious and unrestful to say nothing of the extra work a cluttered-up space always requires. There are, however, a few pieces which may be made and properly placed within a small area, which in connection with a well groomed grass plot gives us pleasure in our summer walks along a residence street.

The chairless porch does not create the impression of restfulness and hospitality; here there is no implied invitation to "come up and sit down." Across the way, though, there is always "open house," or rather open porch, chairs a plenty, husk mats and rugs, ever ready to lure a passing friend to tarry in comfort. This hospitable spirit is so much embodied in the modern plan that the porch is not a mere covered bracket, but has grown to be a room with three open sides, deep enough that special-made furniture will not be subject to so much damage from moisture as under the narrow porch. It is no doubt true that with the contracted porch, the carrying out and back again each night of the favorite chair discourages many from courting nature and all the benefits of the "open air treatment."

The outdoor chair or piece of furniture has no glue in its construction, as it depends on tight mortise and tenon joints, with pins, or in many cases rivet nails. There would be no harm in gluing some joints if it is intended to heavily coat the surface

with paint, but even then a nail should pass through the side of the mortise into the tenon. Naturally large parts should be used in the construction of exposed furniture. The general proportions of the Mission style are more appropriate for porches than for some interiors of limited space.

In Fig. 270 of the illustrations is shown what in its essential features is an outdoor chair, and following the prevalent fancy might be made larger in its parts than indicated on the drawing, but this, however, is entirely a matter of individual preference.

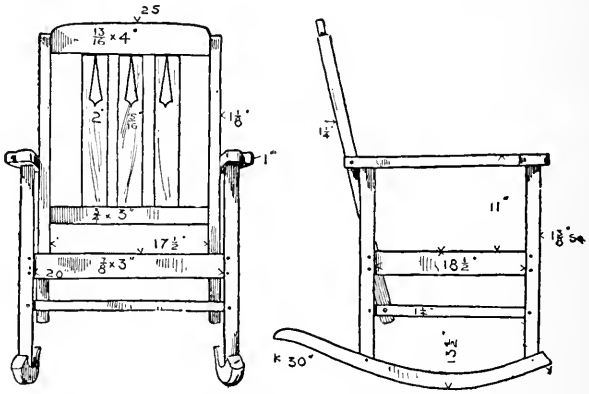


FIG. 270.—Porch Rocker, Showing Front and Side Views.

Plain oak is the favorite wood for this style, treated in a dark brown tone, which now is designated as "weathered." This character of chair, made in ash or chestnut and treated with a transparent green stain, looks very attractive for the porch. Avoid by all means a water stain for porch furniture, for should a chair intended to remain for the season on the porch or one accidentally left out over night become wet by a heavy dew or a night shower much damage might be done to dresses when next it is used. An oil stain is preferable; and furthermore do not use shellac for a preparatory coat for a wax rub; rather use the chair for a time with the oil stain well rubbed dry and bright. To brighten the piece from time to time go over it with a rag filled with half boiled oil and turpentine, then polish with a dry cloth.

Now as to Fig. 270, the measured illustration is easy to follow. In beginning such work it is of course the proper and reliable way to make a rough half-size detail drawing, when no false cuts ensue and the various bevels may be transferred to the material from the paper without guesswork.

The comfortable inclination of the back is secured by holding the lower ends of the back posts at a properly determined position on the side stretcher by means of a carriage bolt, and at the arms also. Small head stout wire nails should be driven where mortise and tenon come together, and this should be done while the parts are held together by bar clamps. On the inside, where posts and rails join the seat frame, triangular corner blocks should be held by stout screws and one long screw should enter the block and the corner of each post. For outdoor requirements a slatted seat will be the most reliable, unless the more comfortable double cane or a splint bottom seat can beobtained. A cleat must be nailed on inside of the side rails $\frac{5}{8}$-in. below the edge and upon this $\frac{1}{2}$ x $1\frac{1}{2}$-inch slats may be nailed, slightly parted. The slats should have the edges well rounded and the top slightly crowned. Naturally a loose leather bag cushion would add to the comfort, and this could be readily taken in at night. The rockers come from a plank $1\frac{1}{2}$ x $4\frac{1}{2}$ x 30 inches.

There are certain chairs which are typical of our American life, public and private. They have a sturdy look that suggests primitiveness. The chair shown in Fig. 271 is such a pattern. We would miss it if we did not see it in a country lawyer's office or in rows along a hotel veranda and the home porch. It is recommended as a good chair to make, being readily put together. It is very seldom made in oak, maple or walnut being used, although that again is a matter of individual taste. In maple the club arms by use become smooth and polished, which properly would not be the case should chestnut or ash be used. A frame with a slat seat is shown in lieu of the usual and more desirable double cane seat. The three slats, each 3 inches wide by 13-16 inch thick, are worked out of stock $2\frac{1}{2}$ inches thick, conforming to an arc of a circle within $2\frac{1}{2}$ x $15\frac{1}{2}$ inches

in length. This and the post should be laid out and paper patterns made.

The seat is secured by a square shoulder in the back, and the front corners are turned out in conformity with the heavy

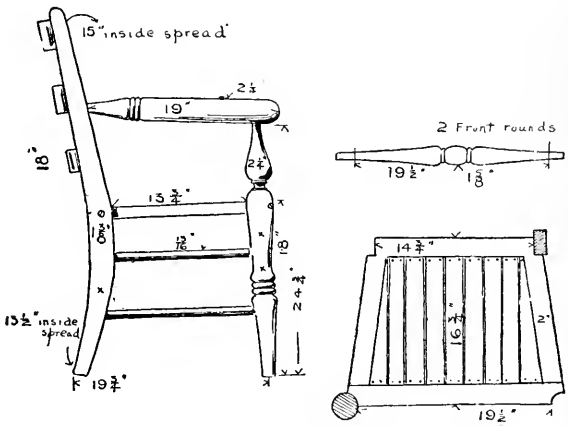


FIG. 271.—Details of Porch Arm Chair.

turned post, as shown, then secured by long, heavy screws on the sides of the back posts and diagonally through the front posts.

The porch swing appeals to many after experiencing the horrors of a hammock. However alluring these bright fish nets have been, they are not what they look to be, and are traps to double one up out of all dignity. The swing, it is true, is not altogether comfortable without pillows, but if care is used to firmly adjust the back a little greater than a chair bevel it will in itself be restful, with its slight swaying motion from chains suspended from the ceiling beams. A welded link chain of 5-16-inch iron should be used—a single chain suspended from the roof beam and running half the length to a double chain—as shown. This back adjusment to swing, shown in Fig. 272, is secured as directed for the back of the rocker in Fig. 270. Arrange the arms so that they are 10½ inches from the top of the seat to the top of the arm. This will be proper support for a

pillow placed in the corner. Bolted construction is the best for such a piece of furniture held in suspension. Two bolts passing through the front pillar along the side rail and into the back pillar, with washers and nuts in the rear, will make a reliable

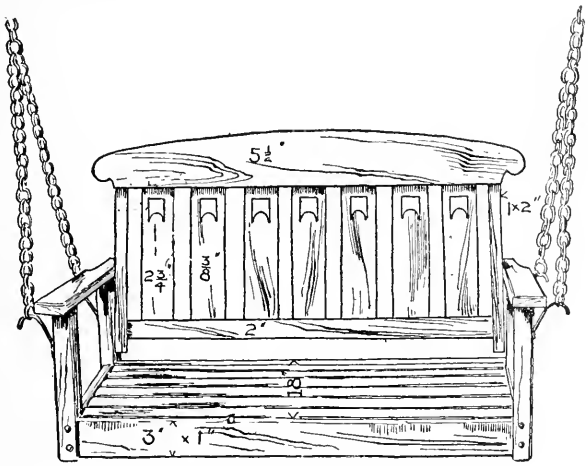


FIG. 271.—Porch Swing 4 or 6 Feet in Length.

framing. The front and back rails may be secured by shorter carriage bolts through pillars and into holes in the ends of the rails, with a sunken place to receive and draw up the bolt with a nut. Stout corner blocks should also be placed under the slat seat.

As the swing fulfills a purpose in the summer, it could also do service for a hall or den settee by providing an under rack or leg and stretcher parts, to be fitted and fastened by underscrew blocks. This is mentioned here as it might be found desirable to make a complete settee, putting in double stretchers or strainers between posts under the seat. When completed saw off the posts a half inch from the under edge of the seat rail. This lower part may then be put away until the winter months, when the two parts may be reunited by loose dowel joints and held firmly by a tie plate or block at each post under the seat.

Many people find pleasure in having a "Dutch lunch" on the lawn, and for this a few tables appropriate for outdoors should be made. While there can no glue enter into the construction of the table and chair shown in Fig. 273, the fitting of parts should not be carelessly done. The legs, dressed to $1\frac{3}{8}$ inches square, should be fitted to the proper bevel under the top plate or batten, which will answer also in holding the top from warping too greatly. For this use plenty of screws. Two stout square sticks may be halved to support the lower

FIG. 273.—Lawn Table and Chair.

shelf and this is to be held down by screws from underneath. By a proper selection of hickory branches a rustic effect may be produced, while adding greatly to the strength of the table. The slant of legs shown in the picture may be marked on the drawing at 4 inches under the ends and 3 inches under the sides, spreading them in line with the outer edge of the top at the floor line, which is 29 inches under the top. Incidentally the German chair shown would give a good setting to the lawn. The companion chair, Fig. 274, should be part evidence of one's

hospitality, not to say that in it one can become in a summer thoroughly acquainted with one's wife. The dimensions of the seat frame are 17½ x 42 inches, 1¼ inches thick, provided with slightly parted slats. The posts, straight and curved, should be dressed to 1½ inches square; a sufficient curve may be

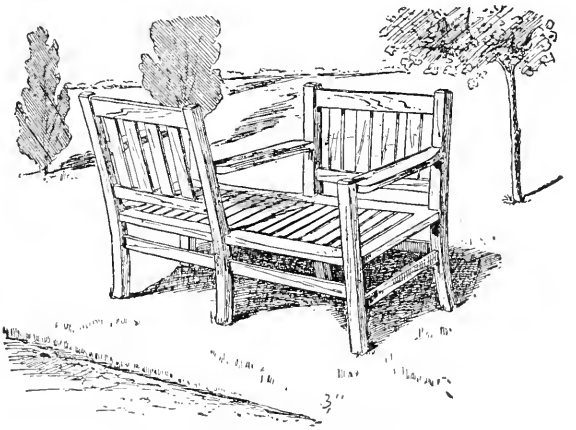


FIG. 274.—Companion Chair.

secured from a plank 4½ inches wide. The height of the back should be 22 inches from the top of the seat. In other particulars as to bevels one may be guided by almost any house chair, as the one under construction should be a chair of comfort and the back therefore may have a greater bevel than an ordinary table chair.

Sufficient size is in the posts to fit the seat into a diagonal gain, sawing off the corners of the seat to fit the groove firmly when drawn up by a long, heavy screw or lag screw. In this piece, which will have no doubt greater exposure, lag screws with washers on all the important joints would be the best to use. The arms, 1¼ inches thick, should be set in the post about ¼ of an inch, which will materially stiffen the construction.

In all furniture it is better to strike off all edges either by a clear-cut bevel or a smooth quarter round. It is pleasing to the touch and guards against future dents and corners breaking

off. Should wood of no pronounced figure be used in the construction of this piece, it had better be given three coats of paint, the seat, arms and back being sandpapered after each coat to avoid a fatty condition in the hot sun. Bright red, green, dove or dark tan are suggested as a range to select a color.

Fig. 275 leads us more away into that particularly shady place where possibly it has never occurred to us to establish a permanent tarrying place of some comfort for a party of six or eight. This may suggest to some reader who has the work of fitting out a picnic grounds an inkling of further ideas along this line, for most people nowadays have realized that "a day in a

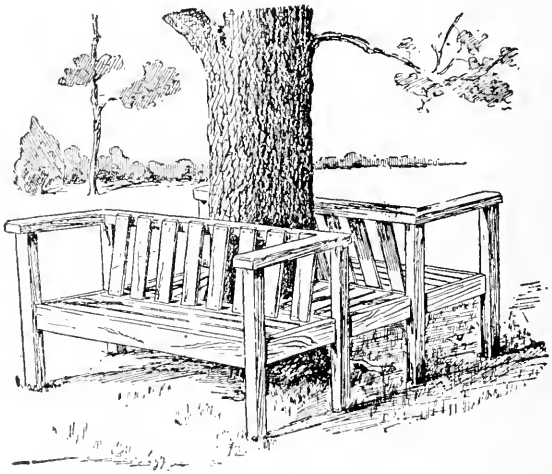


FIG. 275.—Lawn Settee.

beautiful wooded grove" is a myth as far as comfort for the tired body is concerned. Direct construction is here used, and by having the seat 20 inches deep the proper back rest may be given by nailing the slats onto the top rail as shown and pulling them out at the seat 3 inches from the back edge. A bevel strip may then be used to nail them at the bottom. The side rails, 1 x 3 inches, extended to the corner posts of the two chairs, forming the rail for the small middle seats, the slats for which

may be nailed to cleats nailed to the back rails of the two settees. It would be just as well in setting up this double formation to keep off 1 inch on each side of the tree trunk to allow for expansion in growth.

It is hoped, in conclusion, that the few pieces shown may act as an incentive to the creation of that which represents individual taste and requirements about one's home.

In a little town, tucked away in the bay along the Atlantic Coast, this subject was suggested by the lamp post shown in Fig. 276. In the mind of the genius who spied the tree as a likely support for one of the village lamps it no doubt was thought a mere makeshift—handy, however, as it needed no ladder to attend to the light. Years ago the summer house and other forms of rustic construction were much a part of a well conducted estate—then a long period—when out-door accessories, useful or artistic, were little seen; even the dog was denied his special house and was consigned to the barn or allowed the warmth of the house, to grow lazy and unmindful of intruders.

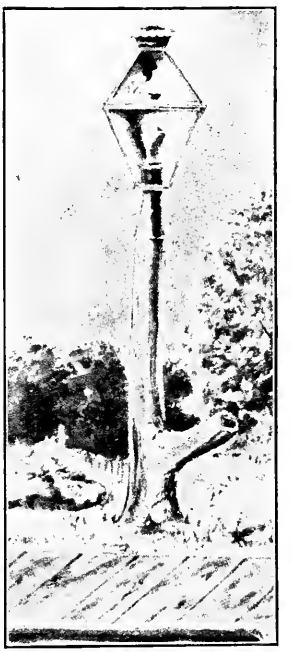


FIG. 276.—A Rustic Lamp Post.

Now a return to these out-door comforts is very noticeable, being mainly due to the rapid acquirement of farm and suburban homes by the city man. His ideas of comfort and adornment are in evidence within the home, and without there is a seeking after landscape effects, if the extent of ground permits—the location by some prearranged plan of certain fixed features that will be pleasing to the eye from the central point, the dwelling.

These features are much in the province of landscape gardening, but as accessories the artificial, the constructive, must be made use of, which require the ever necessary carpenter. We would all be living in tepees were it not for the carpenter.

There is a certain dignity in having some of the outdoor pieces of furniture fixed, immovable, as a seat inheriting the stump of a tree, a bench ever inviting one to tarry awhile in the sun, for even in February there are often exceptional days when, wrapped in overcoat, a seat out-doors in a wind-protected place is a great tonic.

With the suggestions offered in the illustrations there can be no fixed dimensions accompanying them, as they will depend on the material in hand. Inspiration to produce the odd or quaint piece of rustic work must arise from the fact that a condemned

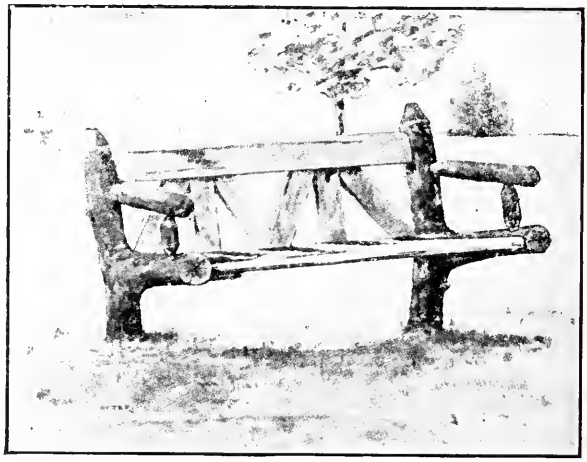


FIG. 277.—A Quaint Settee.

tree has upon it sections which will answer for the main members of the proposed construction. Take as an example the settee, Fig. 277. It is quite possbile to find two members which will "pair," giving a ready-made support to seat and back. In this instance, being a fixed seat, sufficient length should be left

to set in ground, as a fence post, previously coating the buried portion with coal tar.

It is more often accidental that the favorable location for a seat, or flower stand, is immediately over the stump of a tree, which may be converted to the purpose of a support, to be more substantial than any other. Where such is the case, and other conditions congenial to establishing a seat, such a chair illustrated in Fig. 278 may be constructed at a very comfortable height by sawing off at a somewhat extreme angle, making the front height of seat board 17 inches from the ground. Into this board, which should not be less than 1½ inches thick, bore holes

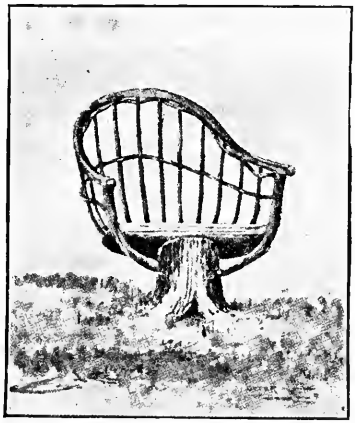


FIG. 278.—Chair with Tree Stump for a Base.

in a slanting manner near the edge, into which the spindles are inserted. These spindles and the bow should be, properly, of hickory. A young green sapling can be bent and conformed for the bow to an enlarged shape of the seat, securing the two ends to the front posts, which are natural curves, first being inserted in holes in the stump and secured by nailing to corner of seat. Spacing off the under part of bow, bore the same number of holes as in seat for the spindles, giving them more flare at the top. The spindles being selected from green hickory, averaging ¾ inch in diameter, may now be cut. The measure of each being

regulated by the bow slanting to the front, each end is then trimmed by a chuck to fit the holes into which they are inserted, and held by wire nails driven and clinched against an iron. A "fitching" may now be easily worked in and out between each spindle, pulling them well up under the bow, securing at intervals with a nail, and at the ends against front stakes. This is done with a much lighter and more pliable hickory stick; it not only reinforces the appearance of the bow, but strengthens it materially when thoroughly set and dry to shape. This is referred to in detail, as the use of the withe assists greatly in bonding together what is at first pliant construction. The barrel hoop today is still the hickory strap, however primitive.

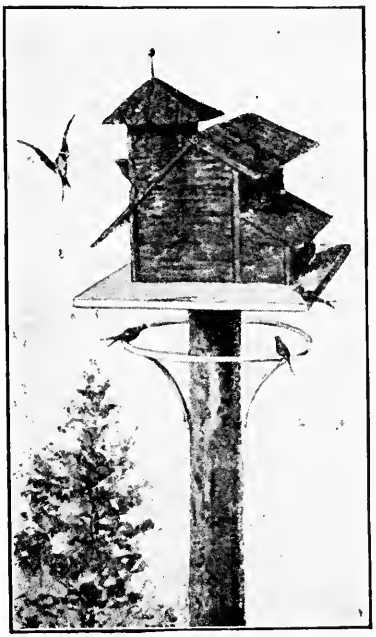


FIG. 279.—An Ornate Bird House.

No home is complete without sharing part of it with the birds. It is true since the importation of the English sparrow the little rascal has it all his own way; he and his fellows constitute a union unto themselves; no other bird carpenter or home builder is allowed to set up a home short of the woods. The purple martin, a respectable citizen and "man of the house," has little chance, however plucky, against this selfish horde. We fear the shotgun is the only thing to clear the way for him, but the martin, once a tenant, will renew the lease every spring on his return from the South, besides bringing a fine selection of songs to entertain you at the breakfast table. The illustration, Fig. 279, is

away from the conventional pattern of years ago, when the attempt was generally to make, in miniature, a dwelling. The overhanging rain and wind-protecting roofs, it is thought, will be appreciated by the occupants, and the bark slab sides be more appropriate to bird nature. The plans for this house, when prepared, call for seven rooms; the basement consists of a hoop or ring to accommodate visitors. The "elevation," 25 feet from the ground on top of a planted pole, or, if possible, a tree cut off at about this height. The situation, 75 or 100 feet in front of the windows of the living rooms, is everything in giving enjoyment to the housed-in or the invalid.

In constructing out-door furniture the aim should be to have the parts sufficiently stocky to stand the sun and rain without warping or cracking. Therefore, very little inch material should be put into such work. Factory-made furniture, for this reason, is undesirable and will weather few seasons, although of late many substantial patterns are made that stand well under the protection of the porch or veranda.

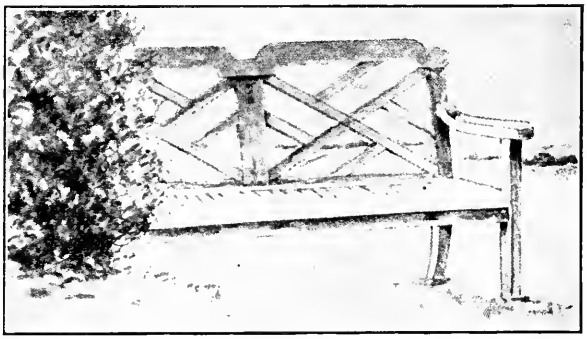


FIG. 280.—A Heavy Piece for the Lawn.

In addition to the light, portable furniture of the piazza, a substantial heavy piece located, for the open air season, at a nearby point on the lawn will save much nightly carrying-in of chairs and rockers. Such a piece, Fig. 280, will give welcome dignity, placed just off the driveway or walk leading to porch

steps. A roomy bench or settee, Fig. 281, permanently placed in view of the tennis court, should not be overlooked. Here, or

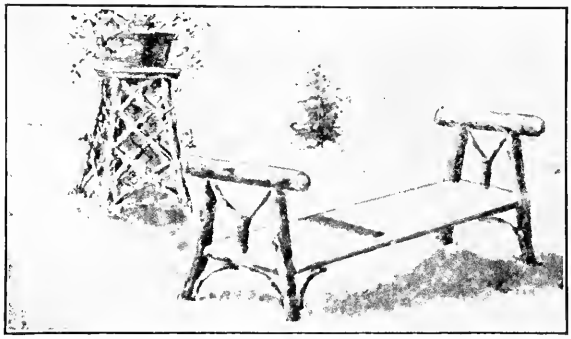


FIG. 281.—A Tennis Court Bench.

near about, might be constructed a luncheon table. It may, however, be a matter of individual desire where the table shall

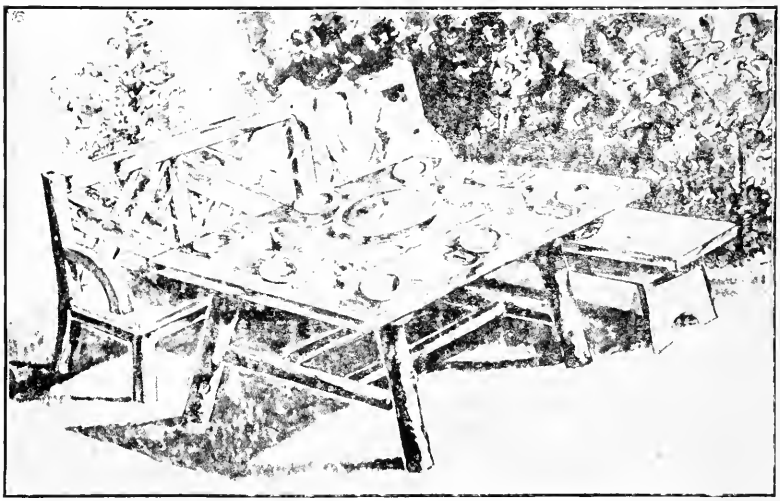


FIG. 282.—Table for the Lawn.

be located, as one spot at a certain time has a greater attraction over another. The artisan and we plain people may favor the

level, grassy lawn, but the feminine portion of a wealthy man's household seek to give a proper setting to their functions, or lawn parties—the scene to look bright and gay by locating the table and benches in front of a bed of flowers or a hedgerow; the position at another time, toward the fall, transferred to the vicinity of the ripening grapes on the arbor. Once meals are partaken in the open air there will be many repetitions; even at so late a day it is hard to shake off Adam-like habits. The table then, Fig. 282, should be built in no flimsy way. The under structure may be mortised and tenoned, then nailed, while the

FIG. 283.—Rustic Support for Rose or Honeysuckle Vines.

FIG. 284.—Seat with End Serving as a Lattice for Vines or Creepers.

top is made of heavy stock, strengthened by battens. Hooks are then provided to catch into staples in the under part.

Out-Door Furniture

There are few seats made entirely of tree limbs which are comfortable, unless by a rare combination of parts and considerable care given to whittling off the bumps. From observation rela-

tive to the durability of any kind of open frame work the carpenter is well experienced, and should use rustic work in a restrictive way, knowing well that material which has been milled and surfaced will, like the duck's back, shed water freely when it has been treated with oil and paint. With this thought in mind, tree limbs should be used in a subordinate way, and a structure for strength made up of framed parts with joints should, before being brought together, be freely coated with white lead or coal tar. Neither should broad surfaces be brought in close contact to absorb and retain moisture, but rather relish out, if possible, leaving sufficient stock for a good bearing. Then, as in the case

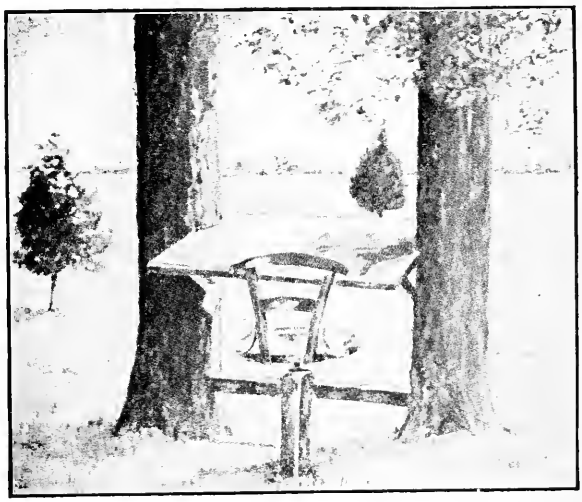


FIG. 285.—The Rustic Writing Desk.

of many pieces illustrated which are portable, they may be put under cover of the barn or outbuilding at the close of the summer. The pieces shown in Figs. 277, 278, 280 and 281 may be considered as fixtures, as Fig. 285 and particularly Fig. 283 are intended as a support to the rose or the honeysuckle vine. There is a certain charm in making nature still more eccentric by rus-

tic work. If it is used, as at the end of Fig. 284, as a lattice for vines and creepers, it is more in conformity than using smooth lath arranged in conventional shapes.

The writing desk pictured in Fig. 285 will no doubt be conducive to a flow of thought, and—and—ink likewise, should one happen, which is very often the case, to have two trees standing about 6 or 7 feet apart. A board, reinforced underneath with cleats, can then be fitted between the trunks at the proper height and angle for a swivel chair, which may be easily constructed, as shown, to set over the post. A heavy bolt welded to the iron plate secured to the bottom of the seat may be dropped into the hole in the post, having several wrought-iron washers to intervene, so as to allow the chair to swing around underneath the desk, while at the proper height is placed a rest for the feet.

The swinging settee shown in Fig. 286 will be a source of genuine comfort on a hot afternoon, when reading is the intention, but sleep the usual ending. Devoid of padding on the

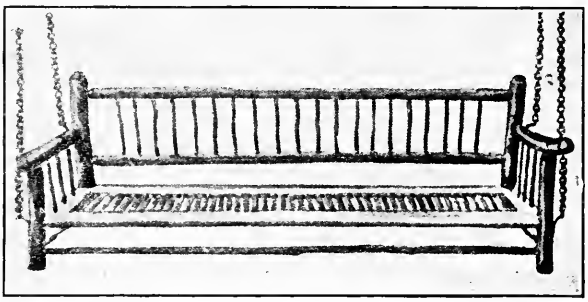


FIG. 286.—A Swinging Settee.

arms, there is no especial attraction for an afternoon nap. It is predicted, though, many fancy pillows will be found there. This, with the swinging motion from the chains, will make a more desirable resting place than the hammock. The chains hang from hooks in the rafters of the porch, or heavy limb of a tree, are secured by plates bolted to the ends of the settee, the front chain secured to the seat frame, while the rear chain is ad-

justed at the proper balancing point near the arm or back post. Heavy No. 000 German chain should be used. The size of the seat should not be less than 23 x 72 inches, the framing consisting of 1¾ x 5-inch stock, the inner edge rabbetted out to receive slats ⅝ x ¾ inch, to be nailed at intervals of ¾ inch. The upper face of these slats should be slightly ground. Another form of seat may be put in, like an old-time sack bottom bedstead, and heavy duck, with seam and eyelets, worked in along the edge, through which rope is inserted in and out and around slots cut into the framing, stretching the material as the rope is pulled through the eyelets. The front and back legs are extended 12 inches below the top of the seat, in so doing making the settee useful in the dining or smoking room as a general lounging couch.

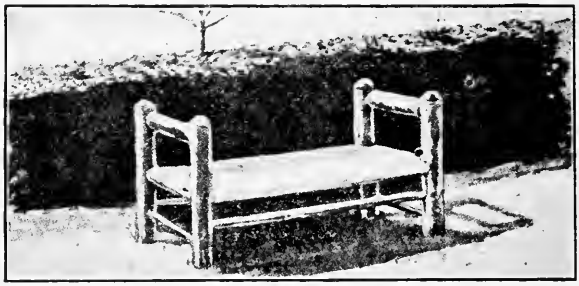


FIG. 287.—Bench for Driveway or Along a Hedge.

In Fig. 287 is seen a very readily constructed bench for the driveway or along the hedge. The settee, Fig. 288, will be convenient when located along the edge of the water or other place where the ground remains damp, the footboard being placed on a slight angle convenient for comfort. Should one possess a lake or river frontage, benches and other seat forms should be plentifully provided and located at positions giving the best view. Where the viewpoint is at an elevation toward the west, the greatest amount of pleasure is to be had watching the setting sun. This is a sentiment appreciated by all. A comfortable

seat in nature's theatre will remind one that the last act of the day is the best and most beautiful of all.

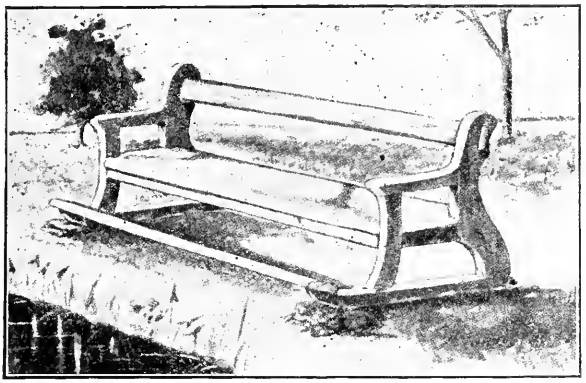


FIG. 288.—Settee for Borders of a Lake or River.

In continuing the consideration of the subject, it may be stated that the construction shown in Fig. 289 is intended for a lounging settee, and if the head rest and sloping end be adjusted at the proper angle it will be found not uncomfortable for re-

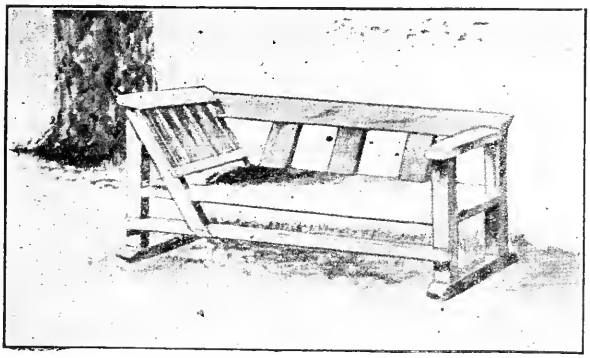


FIG. 289.—Lounging Settee.

clining. Children are well satisfied with the ground and grass upon which to scamper and roll about, and the older people or

the mother welcome such a resting place. In time the old tree and bench become the recreation ground for the family. Frequently two trees have grown from the same root, and it is found desirable to remove one of them. The stump may then be converted into such a seat as that shown in Fig. 290. A comfortable back is improvised by hewing out slightly two wings for the

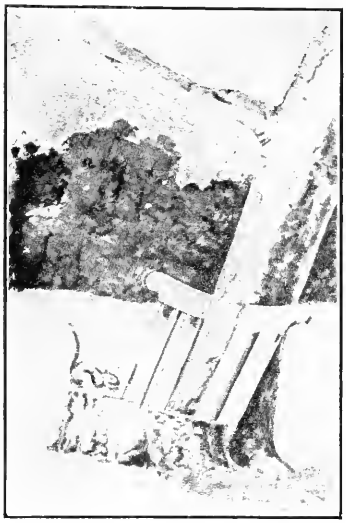


FIG. 290.—Stump of Tree as Used for a Seat.

FIG. 291.—Support for Jardiniere.

top slat, supported by a brace from behind, and under the edge of these are nailed two slats on each side of the portion of the tree trunk forming the middle of the back. The stump should be sawed off at the proper inclination for comfort. In order to prevent hasty decay, treat the surface with paint or other preservative. In Fig. 291 is a suggestion for a stand supporting a *jardiniere*, which is usually brought from the living room during the summer. Many other forms will no doubt suggest themselves as this interesting subject of out-door life develops in the mind of the home builder.

The flower pyramid shown in Fig. 292 possesses a certain interest when a limited space is given to the disposal of many flowering plants.

The frame is made of four 2 x 4-inch pieces placed in the form of a pyramid. In the illustration the construction is partially exposed, showing the intermediate studding of 2 x 4-inch lumber,

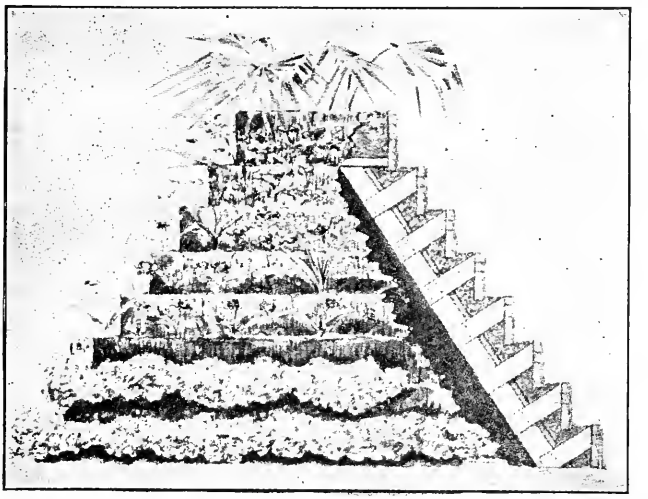


FIG. 292.—The Flower Pyramid.

with extended brace nailed on the ends of them, while on the outer face of the studding is a covering of rough boards, upon which, when the structure is finished, the earth will be thrown, filling in from the bottom box up to the top, which has a separate boxing. The face of the boards is finally covered with bark, thus obliterating all evidence of carpentry work.

At this point, it may not be out of place to refer to the varied points concerning the preservation of wood work, which is a matter of great importance. In its bearing on rustic fixed furniture, however, it is well to let time and the elements treat it as they will. It would, indeed, be like "gilding the lily" to paint it, although some portions may be treated with boiled oil, par-

ticularly the end wood where decay first sets in. All benches, settees and other furniture of made-up stock should be painted,

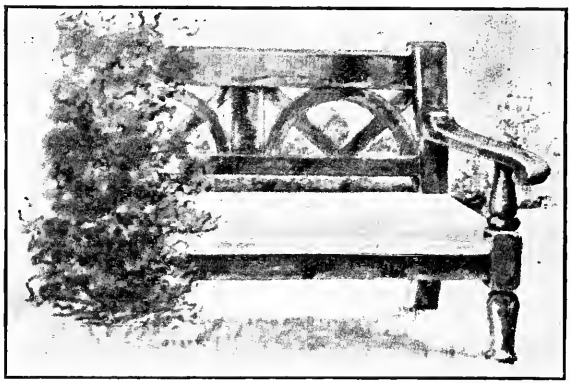


FIG. 293.—Settee with Lattice Back.

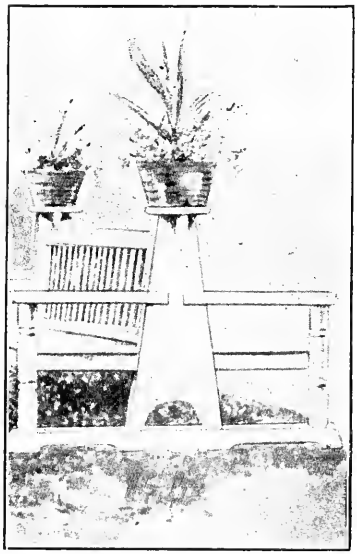


FIG. 294.—Double Back Settee.

and painted underneath as carefully as in the exposed portions. Buff and shades of green would no doubt be most satisfying, while a settee with lattice back, or Chippendale style, as in Fig. 293, painted pure white, affords an agreeable marking point on the lawn. The double-back settee with flower supports, such as indicated in Fig. 294, would also be appropriate in cream or white.

CHAPTER XV

FINISHING

HEN the builder of furniture has carried his work along to the point of final finishing, he has probably given each piece that forms part of it such careful smoothing with plane and steel scraper that the work in its entirety needs but the clearing off of certain glue streaks or particles, that the last rubbing over with No. oo sandpaper prepares it finally for the staining operation. It is presumed he has attended to this in real loving interest to experience that rare sense, finally, of the satisfaction of accomplishment, for reducing the work to the smoothest possible condition, reduces also very consideraby the various stages of after finish.

The definite object of putting wood into an immediate condition of representing what the mellowing influence of time accomplishes, should be the desire—and indeed it would be far better to leave furniture to go without stain or finish whatsoever and allow time to finally produce that rich depth of color, than to stop off time coloring action by some passing furniture finish like so-called "antique" or "natural" which holds the wood in a most unnatural color for all time.

The charm of the old furniture is in the freedom of that enamel, glossy, varnish finish which fills up the depth and destroys natural texture.

In the "Arts and Crafts" and "Mission" style, a greater appreciation has developed for wood in furniture and interior finish which is free from the overlay of varnish or its substitutes.

So great is oak held in favor and real sentiment that attention will be directed more to this wood in reference to finishing than to the closer grained woods. To secure this much desired

warmth of color in oak and chestnut one need but observe the rich coloring in brown tones imparted to oak which has been used in the construction of horse stalls, where time and the fumes of ammonia have played such an important part, this then was the suggestive thought which years ago, in England, was worked out in a practical manner by inclosing furniture prepared for coloring in a tight box or cover to receive the fumes from ammonia which had been poured out in shallow dishes. For ordinary application of this method, when work is infrequently made, a well plastered or papered closet may be made use of, taking care to have the door close perfectly tight against temporary sealing strips. Upon this air-tight condition depends the quality of color, as the operation requires about forty or fifty hours' exposure. The liquid is properly termed aqua-ammonia, and is about 26 per cent. strength; much stronger than ordinary household ammonia.

A quicker method and one resorted to by manufacturers is the use of ammonia brushed on by a sponge or brush. After the first coat is well dried, sandpapering is necessary to remove the fine particles of grain which have been raised. This should be carefully done with fine sandpaper, and then a second coat of ammonia applied, and as carefully sandpapered as before. This operation as well as the fuming method is rather trying to the nostrils, and the former method is recommended as one can quickly close out the odor. If from the difference of open and close character of the wood some parts show lighter, give such places a third brushing. After the entire work is well dried and in smooth condition, apply thin coat of orange shellac; let dry and sandpaper lightly with fine paper; then give another coat of shellac treated in the same way. Finally apply one or two coats of floor wax of some well-known make, used according to directions given.

As in other work, so it is in finishing wood, that it does not consist in the use of a certain method, formula, or preparation merely, but quite as much in the intelligent handling of the subject, for chemical action in the wood itself enters largely into creating an unevenness of result, the close or open character of

one piece of wood in its relation to another, and herein individual judgment should be used to match up or modify for the desired even blending to overcome unpleasant contrasts or streaky condition as it might occur, as in a portion containing a certain amount of sapwood. However with such experiences met with and overcome by certain preparatory tests on scrap wood, which is always advisable, it is quite safe to make use of finishes for oak, or close-grained woods which have been prepared by reputable color and varnish makers, who give you the benefit, in their directions, of many years' experience in preparing their products for exacting requirements.

Mahoganizing

Maple and birch enter so frequently into mahogany furniture so called that a mahogany stain must be used to create an even coloring. It will be found more advantageous to make use of the preparations or powders for mixing put up by some of the reliable color mixers when the mahogany stain is to be used infrequently. When it is used extensively and the aim is to keep one established color the mixture or the proper shade should be prepared from one formula. Every finisher has his pet secret formula, which may vary as do the stains from the color houses. For this reason intelligence and patience must be a part of the mixture, frequent tests being made and finally a note as to the proportions when the satisfactory tint has been produced. The two ingredients frequently used are the aniline powders known as seal brown and French red. It is generally unsatisfactory to state how much of the red should be added to the brown in the water solution, as it is much a matter of testing the strength of color on a surface of wood similar to that which is to be stained. In a tin pan or vessel of very warm water sift in, while stirring, a small quantity of the brown, then follow with the French red, making a test, which should be allowed to dry before diluting or adding more color. The brown should be used sparingly at first, as it colors quickly. The red should not be too pronounced, suggesting that cheap Christmas toy red seen on low-priced furniture. By confining the experiments to scrap wood and match-

ing with a sample of genuine finished mahogany no trouble should be found in imitating the recognized color. When the desired shade is obtained it is not necessary to apply it hot to the wood. The surface should be finished and free from any grease or glue spots which would hinder the stain from being absorbed. Some parts on the entire surface might be benefited by a second coat. Allow the work to stand a day before treating to a coat of shellac, which is allowed to dry for half a day, when it may be rubbed over with No. o sandpaper. With a medium-priced first filler varnish coat the work and allow as long as possible to dry, or give it not less than two days to harden. Judgment in this, as in everything, should be used, and plenty of time should be given between coats. After the surface is thoroughly hard rub down with sandpaper, and give a second coat with an equal amount of time to harden before applying the third and final coat of good furniture varnish. This last coat should be allowed to dry not less than five days, when prepare to rub down with pumice stone and water, using a heavy strip or square of felt, dipping it in a saucerful of stiff pumice stone powder and water. This also is an operation the information for which is secured solely by practice. Remove the chalk line deposit with a damp cloth and wipe dry with cheese cloth, after which proceed to go over the work with white waste dampened with a preparation for furniture polishing consisting of half and half of turpentine and raw linseed oil and plenty of elbow work. A drop of alcohol added to the rubbing cloth will very frequently facilitate the operation.

CHAPTER XVI

UPHOLSTERY

Some Suggestions Touching Upholstery Work

PLAIN upholstering of furniture may be very readily accomplished by following a few instructions and taking care to keep form and outline true and evenly balanced. A chair frame is taken as an illustration, and the operations necessary to upholster it may be enlarged upon for a settee or larger piece; practice and the article itself suggesting more than could be told.

The first illustration shows the usual custom of upholstering. The work starts with putting on the webbing or bands on the bottom of the seat framing, and this should be done in a very firm way. For a chair seat, three strips from front to back rail and three interlaced through these across the width of the chair will be sufficient to make a firm support for the springs. Fold the ends of the webbing sufficient to have the tacks hold and then stretch across to the other side by hand or by means of a steel stretching tool, folding and tacking and cutting off the webbing to start another strip. For this use 10-ounce tacks. Five springs of the shape shown in Fig. 295 will be sufficient for the usual size of chair seats. This spring is 3¾ inches high, and is of 10½-gauge wire. The position of the springs on the webbing should be about 1 inch from each corner, with one placed in the center. They are then held in place by stitching through the webbing sufficient to hold them to one position, and for this use an upholstering curved needle and good twine.

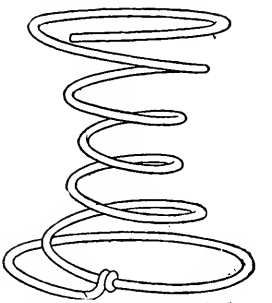


FIG. 295.—Shape of the Springs.

The tops of the springs are now held in the same relative position, and for this, use heavy cord, securing the end to the top of the seat rail with a matting tack or staple driven inside of a hard knot; then engage the outside wire of the spring with a loop knot drawn so that it does not compress the spring too much. From here loop across the spring and then to the opposite spring and down on to the rail, making a hard knot and holding the cord down snug with a staple. In this manner do the other springs and then criss-cross, so that they are all bridged together.

Cover this network with burlap or muslin, tacking the first edge sufficiently folded to have the tacks hold on to the edge or the back seat rail, and stretch forward and tack down on front rail, then on side rail, folding the edges as you tack. Upon this distribute in an even manner about 2 pounds of moss, tow or hair. The way it is put on is a matter of a little judgment, the idea being to maintain an arched shape. When this is placed to your satisfaction, stitch over with long stitches with a curved needle and twine to prevent the material from shifting. Over this tack down the muslin securely. Frequently this operation is repeated by another layer of moss, tow or hair, but this is not necessary where a good quantity of hair is used. Always place a layer of cotton batting over the muslin, covering to prevent the hair from coming through, and also on the edges, that may be sharp and liable to wear. The final outer covering being a matter of one's own selection, nothing can be said as to this, except to caution when using figured goods to adjust the figure to the shape with some idea of balance. As to the backs of chairs when springs are used the same operations apply with a smaller spring used.

Most chairs have backs filled in against a webbing applied along the inner edge of the frame, the moss or hair being carefully stuffed in under a muslin covering tacked down as the work proceeds, then the leather or figured goods is laid over cotton batting intervening and tacked carefully to the rabbett on the outside of the framing, over which is neatly stretched gimp to match the material. When a corner is turned, lap the gimp while stretching it, so that it strikes the corner with a good miter.

The custom is so general to use quite large metal or leather-headed tacks as a border finish, that care should be used to evenly space them and have the corner button hold down the miter neatly. The back of the chair is usually covered with the same goods, but may have a cheaper grade of the same tone neatly tacked on the rabbett and lined with gimp. To hide the unsightly webbing on the bottom of the chair, tack, with edges folded, a piece of chintz of suitable color, hiding all the rough edges on the rails.

The spring and wire illustrated in Fig. 297 is used in later-day upholstering, the wire taking the place of the webbing. This style of creating a spring foundation is coming into great favor

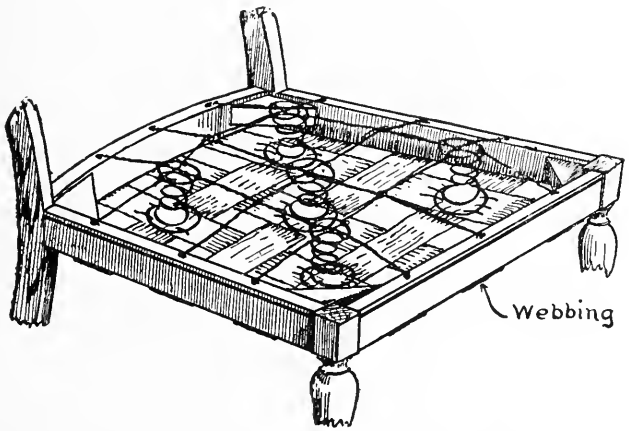


FIG. 296.—Showing Usual Method of Upholstering.

for its general simplicity and is well adapted for square frames such as Morris chairs, settees and built-in hall seats. The scalloped wires shown cross each other at the base of the spring, a "half" spring being used. The wires are sold in different lengths, bent with a crook at each end, as partly shown in the cut, having a sharp point which is driven into the top of the seat rail. As an extra precaution a stout staple should be tacked over the wire. It will be seen that with the peculiar shaping of the wire the springs, when placed and secured by a similar intersecting wire,

occupy about the same level as though the webbing were tacked on the bottom of the rail. In a chair all that is necessary is to cross diagonally two of these formed wires of proper length, so that the points are driven into each corner block, then screw in to catch the middle spring over the intersection and place the four other springs about 2 inches from corner blocks, securing them on to the main wire by inserting a cut-off section of the scalloped wire used for the purpose. The upper part of the springs are then tied with heavy cord, as shown in Fig. 296.

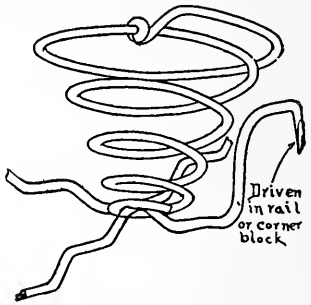


FIG. 297.—Shape of Springs Used in Modern Upholstering.

Much more could be said of upholstering. Practice on the plain work will give one many suggestions relative to a trial on more pretentious work of the over-stuffed class, and dissecting an old piece having tufted work and spring edges will add to one's store of information.

Leather will always be the suitable material for the dining room, the den, and for library furniture on account of its wearing quality and that it does not show soil so quickly; other fabrics however are being used in these rooms, and particularly in the living room such a fulness of color and warmth may be had by the use of tapestries, chintz and cretonnes that they will always be used.

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